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AMERICAN BEE JOURNAL

January 1911

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A Sweet Fraternity

By Hon. Eugene Secor

It is an oft-quoted sentiment as applied to the bee, that "Our toil doth sweeten others."

It is a beautiful tribute to this communal worker, and I suspect that the Editor of the American Bee Journal is the chap who gave the sentence birth and prominence.

I wish to emphasize the fact that the bee-keeper also illustrates the same truth.

His toil is in answer to the universal taste for sweets.

Whether one meets the highly organized Caucasian with his acquired taste for many dainties, or the untutored darker brother who knows not the things so fearfully and wonderfully made which his pale-faced brother calls the proofs of civilization, one finds them both with a natural taste for sweets.

As old as history—and we know not how much longer—this longing for saccharine matter in the animal system seems to have been dominant.

When Sam's son plucked the new honey-combs from the dried carcass of the dead lion on his way to see his Philistine sweetheart, he satisfied his hunger and the desire for sweets at the same time, for honey is a food as well as a condiment.

And when Jacob directed his sons, before starting on that memorable trip to Egypt, to "*take of the choice fruits of the land in your vessels, and carry down the man a present of a little balm and a little honey*," he knew, or wisely conjectured, that royalty as well as peasant loved the daintiest morsel that God had provided in His storehouse of Nature; and he wanted Pharaoh's prime minister mollified for an important occasion.

John the Baptist advertised honey when he used it as food and as relish for roasted grasshoppers.

With our cultivated (or perverted ?) taste *we* would want to eat something good to cover up the locust flavor, and I don't know anything quite so satisfactory as honey.

If our mothers had only known the secret of thus hiding the castor-oil taste that was an abomination in our youthful estimation, what an improvement that would have been on the old practice!

But I maintain that the bee-keeper's toil not only sweetens "others," but also himself.

In proof of this, I only need to mention the fact that bee-keepers are the most companionable fellows in the world.

They are companionable because intelligent and communicative.

They never tire of exploring the mysteries of the life and labors and government of their protegees; and their studies in natural history make them thinkers if not philosophers.

This is a class of men with whom it is a pleasure to come in contact.

There are no secrets in their business which they are keeping from the public, and they are all ready, at all times, to dilate upon their favorite theme.

Whether it be in company of a brother bee-keeper, or a student of bee and plant life, or for the entertainment of friends, they can be easily prevailed on to relate experiences or to exploit theories.

Another thing: Bee-keepers are temperate.

When have you caught one visiting a saloon ?

"There's a reason."

When men have access to the nectar of heaven why should they love the broth of hell ?

Of all the bee-keepers' conventions that I have attended, I remember but one instance, and one man, who showed any sign of having indulged in anything stronger than argument.

And the members of the fraternity are moral, and generally religious.

They stand for the best things in life, and for the uplift of society.

The business in which they engage teaches patience and self-control, which are prime factors in the education of man.

They know better than to arouse the ire of the community in which they labor, and accept philosophically the discouraging seasons when nectar is as scarce as complete unselfishness, and the bees are as cross as the booze-lover "the day after."

As the holiday is in progress, and the Christmas spirit of good-will and sweet fellowship is upon me, I recall the beautiful friendships in the brotherhood of bee-men that have been my privilege and good fortune to enjoy during my brief career.

The memory of it is like unto the fragrant breath of June roses.

How sweet is friendship !

How delightful are the recollections of happy days !

How endearing is the brotherhood of common endeavor!

Toil makes the toilers kin.

If Hope and Faith be not dead, happy are we who work !

Forest City, Iowa.

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BEE JOURNAL

PUBLISHED MONTHLY BY
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117 N. Jefferson Street, Chicago, Ill.

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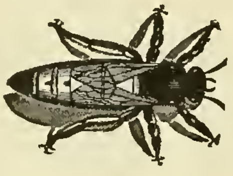

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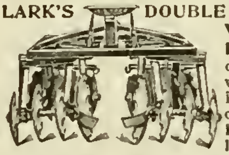

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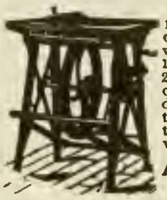

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AMERICAN BEE JOURNAL
L.L. LANGSTROTH
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DR. C. C. MILLER, Associate Editor.

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Vol. LI---No. 1

EDITORIAL COMMENTS

Conflicting Teachings in Bee-Keeping

A beginner, sending in a batch of questions, says: "You will see by these questions that I am just a beginner in bee-culture. And naturally there are a great many things that puzzle me. I take 3 bee-papers, but one sees so many conflicting statements from men who are recognized as authorities."

Probably this voices fairly the thought that at some time or another is in the mind of every thoughtful beginner who tries to inform himself. How can it be that two of equal honesty, intelligence, and experience should express such different views? The answer is the old one, "Circumstances alter cases."

For example, one man says, "Cellar-wintering of bees is away ahead of outdoor wintering," while another says, "I can winter bees outdoors with less loss than in the cellar." The difference of experience is easily understood when it is learned that one man is 45 degrees north of the equator and the other only 35. Even on the same degree of latitude there often may be a material difference. One location may be an open prairie where the wind has an unobstructed sweep, and the other may be well sheltered by timbered hills.

One man says there is more profit in comb honey than extracted, while another says extracted is more profitable. Both are right. The first has a market which demands comb honey, and gives extracted honey the cold shoulder, while the market of the other has a very kindly feeling for extracted honey. Or, the first may be in a locality where the honey is of a very light color, and the other has honey which suits better for manufacturing purposes than for sections.

Other examples might be given of differences in locality.

Again, two men might differ in views because having had experience with bees varying materially in characteristics.

After all allowance has been made for difference in locality, conditions and circumstances, the fact still remains that we are all in a sense beginners in bee-keeping, for no one yet knows it all. It is nothing so very strange to find an experienced bee-keeper changing the opinions that he held 5 years, or even a year, ago.

So the beginner may as well settle down to the fact that for one cause and another there will always be more or less conflict in the teachings of his forerunners, and his must be the task to weigh everything carefully and decide as well as he may what best suits his own case.

After all, in this lies one of the charms of bee-keeping. There is always more to be learned. New problems are always coming up, and no matter how long one continues in the business there never comes a time when it settles down into the deadly monotony of daily routine with no change of program, and nothing new coming up with which to grapple.

The New Inspection of Apiaries

When the first State law providing for the inspection of apiaries was passed in Wisconsin, several years ago, a new era in the fight against bee-diseases began. State after State has fallen into line, until now we see 25 States and territories provided with such laws. Some of these are good, some ineffective, and some bad, but all of them show a willingness on the part of the legislatures to help the industry in which we are so vitally interested. The success of these 25 States and territories should be encouraging to bee-keepers of 14 States in which new laws or changes in old laws are being requested.

Several different methods of inspection have been tried, and since the plan of inspection is so important in devising new laws, it may be well to take stock of past experiences.

The Wisconsin law, and those patterned after it, provide for the appointment of a State Inspector of Apiaries by the Governor or other State officer. While we know of no person who does not recognize the good work done by Mr. N. E. France, who has been inspector for Wisconsin since the law was passed, or about 14 years, the fact remains that there is a weak point in the law, in that the position could be used for political purposes.

In some of the western States, and under the former Ohio law, an inspector is provided for each county, to be appointed by the county officials on receipt of some form of petition signed by a certain number of bee-keepers. This form of inspection proved absolutely worthless in Ohio, and many bee-keepers in Colorado, California, Kansas, and Nebraska, are with good reason dissatisfied with the results obtained. There are several fundamental objections which may be raised to such inspection:

1. It is not always possible to get a competent man in each county.
2. It is better for an inspector not to work the territory near his own apiaries, if he has any, for fear the bee-keepers may think that he is trying to kill off their bees for his own benefit.
3. The funds provided by each county are usually not sufficient to do any good.
4. The various county inspectors usually do not work in harmony, and are often antagonistic to each other, since there is no central office to which they are responsible.

With either of these forms of inspection there are certain objections which show points of weakness:

1. It is difficult to get money enough to employ a good man to do the work.
2. It is impossible to induce bee-keepers to leave their own apiaries during the honey-flow—just when they are most needed in the field.
3. Records of the work are not carefully kept, and it is impossible for the inspector to know, without such records, whether he is doing any good, or

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to know where his efforts should be concentrated.

4. Perhaps the greatest weakness in our present apiary inspection is due to the fact that the men chosen are usually uninformed as to how inspection should be conducted. For example, it is quite customary for an apiary inspector to visit a prominent bee-keeper, and then have his host drive him about to visit the small bee-keepers in the vicinity. This is pleasant for the inspector, and usually for his host, but is perhaps open to criticism. It results too often in the belief that the bee-keeper has sent for the inspector to clean out the small bee-keepers, so he can have a clear field. Other inspectors have been known to take orders for bee-supplies, canvass for bee-papers, buy up honey, wax or slumgum, and do many other things which it is perfectly natural for a bee-keeper to do in his private capacity. It is safe to say that not one of the men who do these things is dishonest, and they would resent such a suggestion most emphatically. They are, however, unwise in doing these things. An officer paid by the State should go out to do his one duty, and even urging bee-keepers to join a bee-keepers' association may be, and has been misconstrued. It is better to avoid even the appearance of evil.

It is quite a common thing for bee-keepers to ask the inspector whether he has found any disease in certain neighboring apiaries. Unfortunately, most inspectors give such information, which they have no right to divulge, unless they should do so by establishing quarantines, and this is not done.

These seemingly unkind things are not said for the purpose of discrediting the good and disinterested work that the present inspectors have done, nor should it appear that the objections are unavoidable. These points of weakness should be admitted, and, when admitted, remedied. The individual inspectors would probably remedy many of them if they but knew that some of their actions are misconstrued.

There is, however, a remedy, and it has already proven its curative worth. Perhaps it is not a panacea, but it is worthy of further trial.

Several years ago Texas passed a law providing that the State entomolgist shall be inspector of apiaries with power to appoint deputies. This law was inoperative for a time, but now under the new entomologist, Mr. Wilmon Newell, the work is being taken up again. Other States have more recently adopted this plan. In Indiana, Ohio, Rhode Island, and Connecticut, the State entomologists are conducting this work under recently enacted laws, and in Massachusetts the inspection is done by the Assistant Professor of Bee-Keeping at the Massachusetts Agricultural College, Dr. B. N. Gates, who is a member of the Department of Entomology. The bee-keepers of New Jersey, Pennsylvania, Maryland, Michigan, Illinois, Kansas, and Oregon, are asking their legislatures to enact laws of this type, and it is probable that still other State associations contemplating bills will make the same request.

The State entomologist is the officer under whose supervision all State work on insects logically falls. He is provided with an office for conducting correspondence and keeping records in a business-like manner; he has agents over the State who can keep him informed, and what is perhaps most important, he has had experience in inspection work.

The argument is at once raised that the entomologist is not a bee-keeper, and has not had practical experience with bees or with their diseases. This is true, but these facts do not militate in the least against the efficiency of his work. It is not hard to learn to diagnose disease, and the instructions for treatment are simple. Even if the entomologist were to do this work himself, he could doubtless do as well as any of our present force inside of a week. The actual work would, however, be done by deputies who would be practical bee-keepers, if suitable ones were available; if not, any wide-awake young man can learn to inspect in a few days. At the Illinois meeting one bee-keeper said that he didn't want college boys coming to inspect his apiary. In the first place, there is no danger of any such thing happening, and, second, it would be nothing strange if the universally condemned "college boy" could do as good work as our present inspectors, after proper training.

The answering of such hypothetical objections is of small value when we have efficiency records to which to refer. It is a safe assertion that in no State have we had more efficient inspection than under State Entomologist Douglass, of Indiana, who has had the assistance of Mr. Geo. S. Demuth, probably as good a bee-man as there is. Ohio has a short record, but one of which the bee-keepers of Ohio may be proud. With no funds and no extra men, Mr. Shaw has the western half of the State inspected, and now knows the disease situation in the State as it has never been known before. In Ohio all of the work, and in Indiana part of the work, is done by the regular nursery inpsectors, and those familiar with this work are authority for the statement it is eminently satisfactory. Connecticut has an excellent record. The State entomologist, Dr. W. E. Britton, has been assisted by two of the most prominent bee-keepers of the State, Messrs. H. W. Coley and A. W. Yates.

It is probable that the greatest efficiency is to be realized if bee-keepers are not employed, unless they sell their apiaries or lease them. An inspector should be in the field every day in order to carry on the work with economy and efficiency, and to stop to care for his private apiary is not doing his full duty. If the apiary inspection be combined with the nursery inspection, the men will be thoroughly trained in inspection methods, and, by being employed for the entire year, they will not be tempted to neglect the apiary work when it is most needed.

The Bureau of Entomology in the Department of Agriculture at Washinton, D. C., has recognized the advantage of the plan here proposed, and when information on the subject is requested, it has advised that the State entomologist's services be enlisted. The movement is gaining daily in strength, and we may hope for a speedy uniformity in our apiary inspection laws, and the increased efficiency which results from systematic work. We need men in this fight whose first thought is the absolute enforcement of the law, who will not be turned aside through sympathy or private interests, and who know how to handle men as well as handle bees.

We recommend the foregoing procedure in apiary inspection work most heartily to the earnest and favorable consideration of bee-keepers in every part of the United States.

Nucleus or Nuclei

D. M. Macdonald says in the British Bee Journal, under the above heading:

> Mr. York (?) lectures on this topic, and does it well. Frequently there is an abuse of words in connection with the use of these adjectives. But my Chicago friend is out when he holds me up as a sample transgressor. I spoke of "nuclei-forming"—*i. e.*, forming nuclei. Where does the use of the word as an adjective come in here? I know the proof-reader of this journal was wide-awake when he passed the term without amendment. Nucleus plan or nucleus plans would be all right; so would nucleus hives or nucleus hive, but I will stick to "nuclei-forming."

It will hardly do to admit that a Scotchman knows more about the English language than an American, for the American from his childhood talks in that language, and doesn't the Scotchman talk Scotch? So the best effort possible must be made to uphold the position already taken. It must be confessed, however, that he seems to have a good argument when he claims that forming nuclei must be "nuclei-forming." Yet, even though hard pressed by his question, "Where does the use of the word as an adjective come in here?" one may reply that the word "nucleus" tells the kind of forming that is done. Mr. Macdonald, however, may stand upon his right to insist that this is not very reasonable, and that he had in mind nuclei as *things* that were being formed.

Well, then, there is still left the chance to appeal to precedent and analogy. Rather let us take "nuclei-forming" as a precedent, and see how it will work out. If one who is forming nuclei is engaged in nuclei-forming, then one who is building houses must be engaged in houses-building. In the same way, hunting ducks warrants ducks-hunting; and we would also have many other combinations of two words with the first word in the plural. But when two words are thus combined, the first word being a noun, is not that noun always in the singular? Possibly, however, bee-keeping is to be a law unto itself in the matter of language, and if we allow that a swarm is "shook," we certainly ought not to object to "nuclei-forming."

Profitableness of Bee-Keeping

In speaking of the profitableness of bee-keeping, it is not well to overdo the matter. Lately a writer said:

> "There is no business today that produces quicker returns than bees, or a greater percentage of profit for the money invested."

And that is only a fair sample of what is frequently seen in print.

If bee-keeping is in the front rank as a business of quick returns and large profits, then it follows, as the day follows the night, that it must be a business in which as many and as large fortunes are made as in any other business. Nowadays millionaires are no great rarity. Is there one among them who made his fortune at bee-keeping? Men who count their fortunes in six figures are thickly scattered all over the land. How many of them are there who have made their $100,000 or more at bee-keeping? Can you point out a single one?

Certainly it can not be said that as large fortunes can be made in bee-keeping as have been made in other lines of business. Can it be said that as many moderate or small fortunes in proportion to the number engaged have been made?

If there is no other business that produces quicker returns or greater profit, then it would naturally be expected that the average bee-keeper would devote his whole time to bee-keeping, giving no time whatever to any other line of business. On the contrary, the average bee-keeper does *not* make bee-keeping his sole, nor even his principal, business. For every one who is a bee-keeper pure and simple, there are 50, if not 100 or 500, who follow some other line of business to help out. More than that, probably not one bee-keeper in 5 makes as much out of his bees as he does out of some other business.

Going a little more closely into particulars, let us inquire into that matter of quick returns. If a young man inquires about going into the bee-business, he is advised to begin with not more than 2 or 3 colonies, gradually increasing his numbers and growing into the business; and if in the course of 4 or 5 years he has a business of any consequence in which the returns have begun to exceed the outlay, he is doing well. Do you call that quick returns?

"But," says some one, "that's not a fair way to look at it. I can buy an apiary in April, and in July I can sell my crop of honey. Is there any other business that will give returns in less than 3 months?"

My friend, your statement needs qualification. In a good year he may have his returns in 3 months; but suppose a year, or 2 years, of failure. In that case he would have his returns in 15 months, or in 27 months.

But even taking your statement at its face value, one need not go far to find a business which gives returns in less than 3 months. In many lines of buying and selling a man turns his capital over in much less than 3 months. A stock-broker may do it in 3 days.

But you say, "Oh, I didn't mean anything in the line of speculating. I meant, of course, a safe, reliable business."

Well, there was no such qualification made. And for that matter, I'm not so sure that stock-brokering is so much more of a risk than bee-keeping. How much certainty is there about your next crop of honey? But giving you the benefit of the doubt, there is more than one kind of crop a truck-gardener can put in with returns in less than 3 months, and with more certainty of a crop than he can feel with regard to a crop of honey. Neither is that the only safe business in the world that gives returns in less than 3 months.

Now as to the percent of profit. Taking one place with another, one will hardly expect to get a good colony of bees in a good hive for less than $5.00. That's leaving out of account investment for smoker, supers, bee-paper, etc. Just take the $5.00. If he averages $5.00 annually from each colony, he is doing better than most of us do. That's 100 percent. Certainly a good profit. But is there no other business which gives a greater percent for the money invested?

A man can get a first-class ax for $1.50 or less, and with that ax he can earn in a year $300 and loaf a good part of the time. That $300 figures up 20,000 percent on the $1.50 invested, or 200 times as great as the 100 percent on the bees. And that same chopper will count it no trick at all to get back 100 percent on his investment in less than 2 days time. Clearly, for quicker returns and a greater percent of profit, woodchopping is a long way ahead of bee-keeping.

"Then if you had it to do over again you wouldn't be a bee-keeper," you say? Yes, I would. But I'll talk about that another time. C. C. M.

MISCELLANEOUS NEWS ITEMS

Removal Notice

In order to secure more room, and for better transportation facilities, we have moved the office of the American Bee Journal to the second floor of 117 N. Jefferson St. This location is within only one block of the new $20,000,000 Chicago & Northwestern Railroad Station, which is located on West Madison St., between Canal and Clinton Sts. This new station will probably be open for business either March 1 or April 1. It covers something like 4 city blocks. In order that it might be erected, all the buildings that occupied the space of 4 blocks had to be torn down and removed.

Our new location is only about 2 blocks from the Union Depot, where it is expected a new Union Station will soon be erected. Into this station will run the passenger trains of the Pennsylvania Lines, the Chicago, Burlington & Quincy, Milwaukee, St. Paul & Puget Sound, and the Chicago & Alton. The Chicago & Northwestern railroad is in 3 divisions, called the "Galena," "Wisconsin," and "Milwaukee." So it is about the same as 3 ordinary railroads. This places our new office within a block or two of what might be called 7 of the principal railroads centering in Chicago. We trust that bee-keepers who come to this city on at least the railroads mentioned, will make our office their headquarters; in fact, we invite all bee-keepers coming to Chicago, on any railroad, to do this. They can have their mail sent in our care, if they wish to do so, and then call for it when they arrive. We will be glad to accommodate our subscribers in any way we can.

Please don't forget to address all correspondence intended for the American Bee Journal or George W. York & Co., to 117 N. Jefferson St., Chicago, Ill., hereafter.

Keeping Ants Out of Hives

One successful way is to set each foot of the hive-stand in a tin can which contains water or oil. A lack in this plan is that the dish needs replenishing from time to time. J. M. Caldwell reports in Gleanings that he succeeds with empty cans by using them upside down, the same as tin pans are used upside down on the posts that support corn-cribs. The rats and mice can climb the posts, but can not make the turn to climb outside the pan. In the same way the ants can not make the turn to get on the outside of the can. He says:

> Just take an old super or box. Cut four pieces 2x2x12, and nail one in each corner. Round off the projecting edges, then melt the tops off from four tomato or peach cans (3-pound cans are best); then invert a can over each leg and nail cross-pieces on top to brace the legs with, and for the hive to rest on; but be very careful not to allow any holes in the sides of the cans that the ants can crawl through.

Bee-Inspection and Foul Brood

1. Who is the State Bee-Inspector for Illinois? What is his address?
2. In case of foul brood, when the inspector is notified and he comes to inspect same, who pays him, the bee-keeper who has the foul brood, or is he paid by the State?
3. What is the name and address of the proper one to whom to report foul brood at Washington, D. C., or to send sample for microscopic inspection?

Prairie City, Ill. ELDEN E. JAMES.

As these questions with their answers may interest others, we give them here:

1. A. L. Kildow, Putnam, Ill.
2. He is paid by the State through the Illinois State Bee-Keepers' Association.
3. Dr. E. F. Phillips, In charge of Apiculture, Bureau of Entomology, Department of Agriculture, Washington, D. C.

Automobile for Bee-Keepers

A. I. Root, in Gleanings, is quite enthusiastic about an automobile that bee-keepers who are thinking about anything in that line may be glad to know about. After saying that although he admires the $2000 and $3000 machines, he would not want one for his own use, he continues:

> Day before yesterday Huber and I took a trip of about 30 miles to see a machine that costs only $305. The same firm makes a machine for only $370; but this one has a very pretty top, and costs only $305. The man, Mr. Jacob Gesaman, has had the machine over a year. As he is a bee-keeper, in the winter time he puts it in the shop ,removes

one of the hind wheels and puts in its place a pulley, and runs machinery for making bee-hives and doing various kinds of carpenter work. He runs it up hill and down, through mud and sand; and there *are* some hills, let me tell you, in Stark Co., Ohio.

Now, one thing that commends this machine to me besides its cheapness, is that it has no water-tank and other machinery to keep it cool. It is *air*-cooled. Secondly, there is no *gearing* about the transmission. There is not a cogwheel to rattle and get dry in the whole machine. Last, but not least, it has solid cushioned tires instead of pneumatic ones that have made and are making so much trouble and worry by puncturing and patching. Just think of it, friends, you who have had some experience with automobiles. No water is needed; no tire troubles, and no gear to rattle where you can not get at it.

To make a good, thorough test of the machine, Mr. Gesaman took Huber and myself (three good-sized persons) on a 24-mile trip after dark. We made this trip easily inside of two hours, taking in a good many quite bad hills, and passing a dozen or 20 teams after dark; and as the road was new to all of us, Huber had to get out every little while and strike a match to look at a guide-board. It is true the machine does not run as still as some of the higher-priced ones, but we passed horses and buggies with very little trouble, and ran the machine right close to them. It is true, also, that there is a litle more jarring with the solid tires than with the pneumatic; but after riding about 30 miles the same day with one of the best pneumatic, I rather preferred my 20-mile ride on the cheap machine. The slight jar in running rapidly gives my blood a better circulation than the more luxuriant and high-priced car.

Last, but not least, the entire expense for repairs on this $395 auto-car, although it has been run every day more or less, was less than $10. The expense for gasoline is, as nearly as he could figure, one cent a mile.

Sweet Clover Food and Drink

Another item in favor of sweet clover is scored by Henry Stewart, in Gleanings. He reports that 3 horses in a sweet-clover pasture were not known to drink from the first of June until July 10, when they began drinking a little.

Special Mail-Bags for Queens

New Zealand is nothing if not up-to-date. Its Post-Office Department provides special mail-bags of red-color and small size in which to carry queens in cages. To provide for ventilation, there are half-inch holes in the bags, these holes being bound with brass, presumably so the cloth will not ravel.

Bees and Cranberries

Every now and then comes fresh evidence of the value of bees as fertilizers. Gleanings says:

> "We notice in the Boston Transcript that Prof. H. J. Franklin, who has charge of the cranberry experiment station at Wareham, Mass., states that the bees have an essential duty to perform in cranberry work, and that the fertility of the cranberry-bogs depends upon the presence of the bees. An experiment was tried, consisting of screening a portion of the bog to keep the bees away, with the result that there were few berries in the screened portion, while in the outside there was a fair crop. Further experiment will be done next year."

Working Up a Home Market

A. Snyder says this in the Bee-Keepers' Review, and he knows what he is talking about:

> There are two separate and distinct methods in working one's home trade; one is to sell to the grocery trade in all towns or cities within reasonable distance, say 50 miles; the other way is to sell from house to house, which might take in cities and surrounding country.
>
> I have worked both methods for a great many years, and am still working them. In a few instances I have worked both methods in the same cities at the same time, and never have had but one grocer find fault, and he was a notorious crank.
>
> In my experience, the more we educate people to eat honey (and that is what we have to do in selling from house to house) the more honey the grocer sells. After we have told all the people in town all the good things about honey, and have induced them to taste our samples, they will naturally want to have a package, but think Snyder's packages are larger than they care for (we put the honey up in 1-lb., 5-lb., 7-lb. and 12-lb. packages), so they will go to the grocery and get a small package to try. We also put up honey in suitable packages to retail for 10c, 15c, 20c and 25c, and don't you see that the grocer gets this trade which he would not have gotten if we had not educated the people to eat honey? Almost invariably, when a family gets to eating honey, they keep right on eating honey.

Bees in Gen. Lee's Statue

Hundreds of pounds of honey have been found in the great equestrian statue of Gen. Robert E. Lee at Richmond, Va. Both the horse and the rider are hollow, and it appears that for two years bees have been going in and out at the parted lips and nostrils of Gen. Lee and his steed. There is no way of getting inside the statue without damaging it, and the bees will be left alone in their iron home.

The foregoing is taken from the Ferdinand (Ind.) News, and kindly sent us by Bro. Alphonse Veith, one of the regular readers of the American Bee Journal. We are always glad to have our subscribers send to us all items relating to bees that perhaps we would not likely see otherwise. While we might not often use them, still there might be found among them an occasional item of general interest.

The Colorado Convention

The annual convention of the Colorado State Bee-Keepers' Association will be held in Denver, Jan. 20 and 21, 1911, at the Albany Hotel Convention Hall. This date is during the week of the Live Stock Show when one-fare rates will apply on all railroads of the State. The Live Stock Show will be well worth attending, and also the Poultry Show the same week. So we want to see a big attendance at the convention. Come and spend several days, and help make the convention a memorable one, such as we have had in the past.

Prof. Gillette, of the Colorado Agricultural College, will give an illustrated talk on "Some Interesting Facts Concerning Bees," the evening of the 20th; and Mr. Collins will also have some pictures to show the same evening.

Saturday morning, Prof. Cockerell, of the University of Colorado, at Boulder, will give a talk on "The Evolution of the Bee." Prof. Cockerell is probably the best authority on the wild bees, of any man in the United States. He has shown the writer the fossil of a wild bee that gathered pollen and visited our wild flowers away back in prehistoric ages, a million years or so ago. He will tell us how the bee developed her pollen-baskets, wax-secreting organs, and many other wonderful things. And along with her development went the development of the flowers. Wouldn't you like to know how much influence the bee has had in the development of our flowers and plants? Perhaps Prof. Cockerell can tell us something of this.

Herman Rauchfuss will tell how he rears the best of queens for very little money, and Oliver Foster will give some of his actual experience in wintering bees and the lessons he has learned from it.

Mr. Frank Rauchfuss will make a plea for uniform shipping-cases, and some invaluable advice on local shipments of comb honey.

There will be a symposium on bee-diseases, and a definite work outlined for the Association to carry forward in combating bee-diseases and furthering the bee-interests of the State throughout the whole year.

We have the free use of the Convention Hall of the Albany Hotel, which is the most centrally located convention hall in Denver, and the Albany will be the convention headquarters.

The programs will be out shortly, and all the bee-keepers whose names we can secure will be mailed a copy. We are sure to have a fine gathering, as this slight suggestion of a program will show. We are to have music when practical discussion weighs too heavily on the mind. Come and bring your wife and children; we will make you feel the warmth of the bee-keepers' fellowship.

WESLEY C. FOSTER, *Acting Sec.*
Boulder, Colo.

Wisconsin State Convention

The Wisconsin Bee-Keepers' Association will meet at Madison, Feb. 23 and 24, 1911. Cash prizes of $5.00, $3.00, and $2.00 will be offered, respectively, for the best three papers written on topics of value to Wisconsin bee-keepers.

The State Inspector will have on display many valuable articles of special interest, among them being a successful uncapping machine that costs less than $5.00, and 2 cents a day to keep it in working order. He will also in a single stroke use a practical double brush that cleans all the bees from a comb. Any one can use it, or make it for himself. A self-measuring faucet that will weigh any amount and never run over the can will be shown. It may be used in any common barrel or can. He will also tell how he makes his 2-story hives for $1.00 each.

Prominent bee-keepers from abroad will also be present. All are invited. Admission free. GUS DITTMER, *Sec.*
Augusta, Wis.

Ohio State Convention

The Ohio State Bee-Keepers' Association will hold its annual convention at Grand Hotel, Hall Nos. 1 and 2, at Cincinnati, Ohio, Feb. 16 and 17, 1911.

HENRY REDDERT, *Sec.*
Cincinnati, Ohio.

Bee Journal Saved Her $25

From following the instructive reading in the American Bee Journal for the year 1910, I have saved $25 on my bees.

MRS. A. A. GOOD.
Arlington, Wash., Dec. 17, 1910.

American Bee Journal

SKETCHES OF BEEDOMITES

Mr. J. L. Byer—A Successful Canadian Bee-Keeper

The following biographical sketch of J. L. Byer, of Mt. Joy, Ont., Can., and also the two illustrations accompanying are all taken from the October number of the Canadian Bee Journal. We are sure that our readers will be pleased to know more about Mr. Byer, who has so efficiently conducted the department of "Canadian Beedom" in this Journal" for a long time. Here is the sketch:

Among the younger generation of Canadian bee-keepers, no one is better known or more highly respected than Mr. J. L. Byer. His capabilities are widely known on the other side of the boundary, and Canadians were pleased when they learned that he had been invited to father the discussion on the subject of "Extracted Honey from Nectar to Market," at this year's National convention.

Mr. Byer is a young man, and we are all expecting great things of him. A brief account of the main features of his career should prove of interest to every Canadian bee-keeper We have read recently several somewhat discouraging statements respecting the prospects Canada offers to would-be bee-keepers. Of course, but few will take such statements seriously. None of us regard bee-keeping as a means of getting rich quickly. The real bee-keeper—the genuine article—is an optimist, and likewise a philosopher. The chief consideration with him is not how much money there is in bee-keeping, but how much real happiness can be extracted from his profession. Now, from this point of view Mr. Byer is a rich man.

Even in the days when he started bee-keeping with an almost depleted exchequer he was a rich man. His is the disposition that realizes just how much hard cash is requisite to make a man happy, and he can be happy, I believe, without a cent. Cheery, ever willing to help his fellows, simple in his tastes, Mr. Byer is the man to disarm the misanthrope.

Mt. Joy, the village in York county where is the home of our friend, is the seat of a little community of earnest and religious folk, descendants of those grand old patriarchs who, pilgrims from an unkind Fatherland, suffered the persecution which was their making.

All around Mr. Byer's little homestead one sees evidences of the persevering and thoughtful character of the inhabitants of the district in the splendid tillage and heavy crops that are the rule. Mr. Byer was born some 37 years ago, within half a mile of the house in which he is now living, his grandfather being the pastor of the community. He attributes what he refers to as the "lazy streak" in his disposition, to the fact that he was compelled by circumstances to commence work at the age of 12 years, and being the eldest of the family, more than the average share of work fell to his lot. He had, however, passed his entrance examinations to the High School when but 11. For 6 years after leaving school he worked steadily on the farm, when he took a notion to learn telegraphy, with the object of entering upon railroad work later on.

It is characteristic of some people with "lazy streaks" to possess also alternating and industrious streaks of a correspondingly violent nature. Young Byer, perhaps something after this manner, pursued his new studies with such vigor that although in 6 weeks he was a competent telegrapher, yet the strain of the overwork was so great that he was seized by an attack of brain fever. His case for two months was thought to be hopeless. Mr. Byer now regards the illness as one of those providential sign-posts pointing out the road to prosperity. Anyhow, on his recovery he lost all desire to follow up his proposed plan of taking up railroad employment, and recommenced his old work on the paternal homestead. At the age of 21 he married—and those who are acquainted with Mrs. B. know how singularly fortunate he was in the choice of a wife.

He continued to work on the farm until the death of his mother—an event which resulted in the break-up of the home. Possessing practically no capital, he had now to turn around, seeking a means of obtaining a living. The idea of taking up the bee-business presented itself to our friend, and Providence happily furnished an acquaintance who had bees to sell, and who was willing to wait a year for his money.

In addition to tending the bees, which the first season more than paid for themselves, Mr. Byer worked out on neighboring farms. More bees were purchased, and in due course he was under no necessity to work away from home any more. From that day to this our friend's affairs have prospered. At the present time he possesses some 360 colonies. Of these about 250 have been purchased at different times. There is a want of uniformity in the patterns of the hives, as will be seen from the photograph illustrating these pages. In the circumstances this could not be avoided, but Mr. Byer has now set out to transfer his colonies gradually into hives of uniform pattern. The hive that obtains the preference in the Mt. Joy yards takes a frame of unusually large dimensions. It goes without saying that fine results are obtained. A master of the craft will be successful, we believe, with any type of hive. We should not, however, care to recommend such a large hive to a beginner. It has its advantages, doubtless, and, after all, every man must decide for himself which hive he can best work with.

We had the pleasure recently of spending several days at Mt. Joy. We visited the 3 yards which are all situated at convenient distances from the Byer home. The buckwheat was in full bloom, and there was a fair crop of buckwheat honey in the supers. Carniolans are the race chiefly in evidence, although we saw some very fine specimens of Italian queens Mr. Byer imported recently. The colonies showed a quiet temper, and but little smoke was necessary for their subduing.

MR. J. L. BYER IN ONE OF HIS BEE-YARDS.

Like the majority, perhaps, of bee-keepers, Mr. Byer has an able assistant in his wife. Indeed, we doubt whether there is another lady in the world who has wielded the uncapping knife to the same extent as our host's wife. Our photograph of the family, taken under adverse conditions at 6:30 on a wet morning, show Mr. and Mrs. Byer with their children.

If we desired to mention an example of the truly successful bee-keeper, we should point to the proprietor of the bee-yards at Mt. Joy. W. W.

Mr. Byer is one of the leading bee-keepers of Canada. We had the very great pleasure of meeting him at the National conventions held at Detroit, Mich., in 1908, and Albany, N. Y., in 1910. He has made a large success of bee-keeping, which has been his specialty for a number of years. His wife is indeed a real helpmeet, and together they have an interesting quartet of children, which will be seen by referring to the family group.

Mr. Byer is a safe adviser along the lines of practical bee-keeping; having had the experience, he knows whereof he speaks—and writes. We are glad to be permitted to place in our columns both the pictures and the interesting biographical sketch, which the Canadian Bee Journal has so kindly consented to our reproducing.

"The Townsend Bee-Book"

This is a new publication of 87 pages, 6 by 9 inches in size. It is a practical treatment of the subject, "How to Make a Start in Bees," by Mr. E. D. Townsend, of Michigan, one of the most extensive and successful bee-keepers in the United States. In 11 chapters Mr. Townsend tells just how to manage bees for the largest success. A few of the chapters are devoted to such topics as "What Hive to Adopt;" "How to Buy Bees;" "How to Take Care of Swarms;" "Spring Management;" "Making Up Winter Losses;" etc. The book is published by the A. I. Root Co., and the postpaid price is 50 cents. If you wish a copy in connection with a year's subscription to the American Bee Journal, send $1.35 to this office, 117 N. Jefferson St., Chicago, Ill.

CANADIAN BEEDOM

Conducted by J. L. Byer, Mt. Joy, Ontario.

Ths Weather in Ontarto

Did you ask how the weather was up here in "Our Lady of the Snows?" Bees had their last fall flight some time during the last of October—about the 26th, I believe. November, while not extremely cold, was *cool* so steadily that scarcely a bee ever stirred from the hive till Nov. 26th, when a few hours sunshine gave a partial flight.

As to December—well, if steady cold means "old-fashioned," it is certainly in that class of winter to date (Dec. 15). A friend writes me:

> "Eight below zero in December, with no late fall flight, looks bad for outside wintering, doesn't it?"

It certainly looks none too good, yet we may have a warm spell in January to make things all right. A number of us fellows got "stung" in the matter of putting the bees in the cellar this fall; but as space is pretty well taken up for this issue, I will tell of our misfortune in a later number.

"Can a Woman Run an Apiary?"

Let me assure Miss Wilson that no "man," or "men," for that matter, assigned the subject to Miss Robson, entitled, "Can a Woman Run an Apiary?" The title was of her own choosing, and if any of the "men" had any doubts on the matter, she certainly dispelled them in short order.

But, dear me, what can a woman *not* run, when she is so minded! I notice in the police court news a few days ago where one woman "ran" a "man." (I might add that in her hand at the time she wielded a broom-stick, or some other similar weapon!)

That Visit to Albany and New York

When sending in matter for the December issue, for lack of space no mention was made of my visit to Albany and New York. I feel that I am but voicing the sentiments of the Canadians present, when I say that we are extremely grateful for the very kind treatment accorded us while on "the other side of the line." Personally, I owe a debt to Messrs. Thorndyke, of New York, and Morris, of Yonkers, for the many acts of kindness shown me during my short visit to the great metropolis. When I mention the fact that it was my first trip to that great city, and consequently as "green" as the proverbial cucumber, those who have been in a like position can best appreciate my feelings of gratitude for the fact that good friends took me in charge and showed me so much of the city in such a short time. At different times, already, I have had the pleasure of partaking of our American cousins' hospitality, and needless to say we are anticipating with pleasure the hope that in the near future we may have the good fortune to have a meeting of the National Bee-Keepers' Association on this side of the line, so that we may have the privilege, at least in a small measure, of returning the courtesies that have been extended to us in the past.

The Canadian Bee Journal

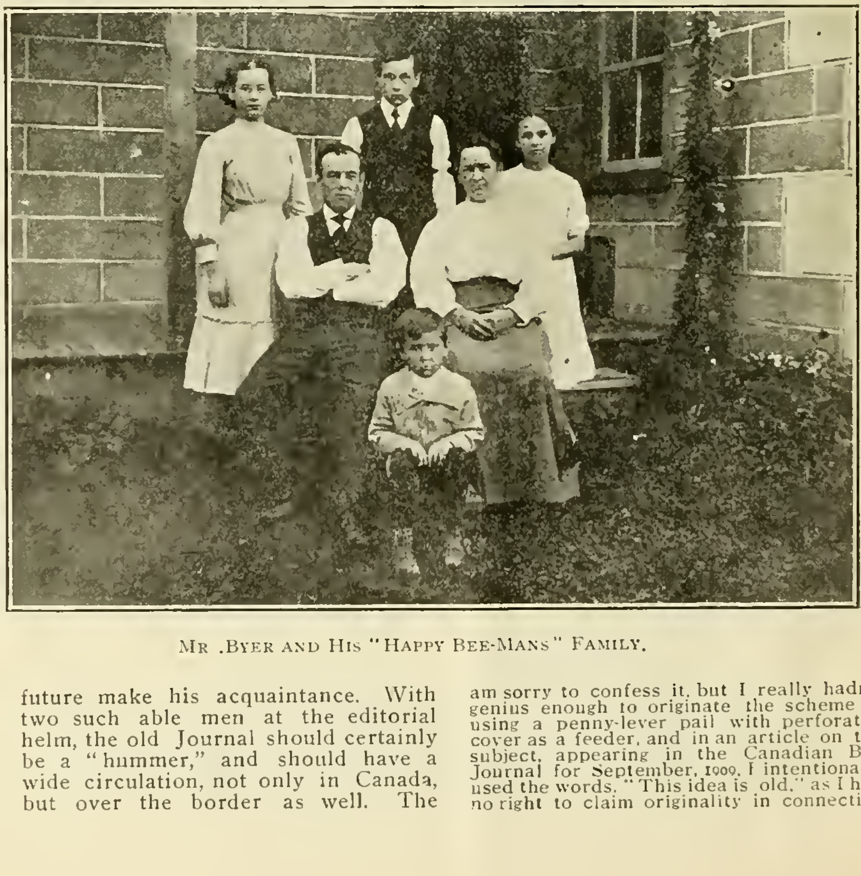
I note with pleasure that Mr. W. White has consented to go on the editorial staff of the Canadian Bee Journal. Mr. White will be a capable assistant to Mr. Hurley, and the two combined should make a "team" hard to beat. Mr. Hurley is a business "hustler" in the best sense of the term, and Mr. White is a thorough expert in bee-keeping, and a first-class writer as well. While he has not been in this country long, yet he is a personality that once met will not soon be forgotten. Naturally of a sociable yet retiring disposition, he at once impresses the new acquaintance as being a man of sterling worth, and I bespeak for him a hearty welcome among the Canadian and United States bee-keepers. While I have met him but twice myself, yet I regard him as an "old friend," and I am sure that like impressions will be formed by all those who will in the future make his acquaintance. With two such able men at the editorial helm, the old Journal should certainly be a "hummer," and should have a wide circulation, not only in Canada, but over the border as well. The American bee-papers have an extensive circulation in Canada—why should not the Canadian Journal cross the line, too? It does to some extent now, but I confidently look for the greater extension of its circulation "over there" in the near future.—[That's right; every Canadian bee-keeper should take the Canadian Bee Journal. And, *of course*, the American Bee Journal, too.—G. W. Y.]

"Why Women Should 'Know Bees'"

Of all the good things Miss Wilson has written, the article entitled, "Why Women Should 'Know Bees,'" is the best, in my estimation. (See page 377—1910.) Time and time again have I seen just such conditions as are described. The head of the home would die, leaving the wife and children in moderate circumstances, and because no one in the family "knew the bees," they (the bees) would be sold at a sacrifice, and perhaps all the members of the family would have to engage in so much harder labor in order to make a living than would have been the case if the bees had been kept, and the owners have had a fair knowledge of the business. This is only one phase of the question, and the thoughts thrown out about the sociability that is created in the home when the different members of the family are able to "talk bees," is not to be despised, either.

Origin of Perforated Honey-Pail Feeder

DEAR FRIEND BYER:—In your department of the American Bee Journal for November, you have inadvertently given me credit for having more brains than I really possess. I am sorry to confess it, but I really hadn't genius enough to originate the scheme of using a penny-lever pail with perforated cover as a feeder, and in an article on the subject, appearing in the Canadian Bee Journal for September, 1909, I intentionally used the words, "This idea is old," as I had no right to claim originality in connection



MR. BYER AND HIS "HAPPY BEE-MANS" FAMILY.

with it. I am sorry I don't know who should be credited with the plan.

Although it is some one else's "baby," I have as much admiration for the tin-pail feeder as if I could honestly claim its fatherhood, for their is no other scheme for feeding bees that I know of that calls for so little monetary investment, and this in addition to many other features.

En passant, it might be well to mention that the old form of self-sealing pails having a shoulder around the top into which the cover fits, is not so good as the newer styles which omit this shoulder, and sometimes termed "self-draining" pails, as, when inverted, all honey or syrup drains away from them dry, leaving no residue, as is the case with the older type. R. B. Ross, Jr.

Montreal, Nov. 30.

P. S.—I'm just back from a rush trip to Europe. I sampled some honey in Hamburg that doesn't compare with our clover or other white honey. (But don't tell the Germans I said so!) R. B. R.

We are glad to have the foregoing from Mr. Ross, and, although as he points out, he may have not been the one to "originate" the scheme of utilizing as a feeder a common honey-pail with the cover perforated, yet I feel sure that he deserves the credit of calling our attention to this very handy article for the apiary.

Since writing my unqualified endorsement of the article a short time ago, one slight defect has shown up, and that is the way in which the pails have of rusting very quickly when used as feeders. Perhaps the improvement mentioned by Mr. Ross may help to obviate this difficulty, as, with the pails I used, some syrup would always be left around the outside edges of the pails. I am not sure that I have seen the pails he recommends, and before another season comes around I will, if spared, investigate their merits.

I might say for the benefit of those who have not met Mr. Ross, that he is one of our hustling young business men, who keeps bees mainly as a recreation, and incidentally sees that they pay him good dividends on the money he has invested in them. Those who may have met Mr. Ross at the Albany convention will be able to judge as to whether he has "brains" enough to merit the credit I had given him in the matter of inventing the pail feeders; indeed, there are few better informed men in the country on matters apicultural, and it is a pity we do not hear from him oftener through the medium of the bee-papers.

While on the matter of writing for the bee-papers, the thought has often come to me that most of our very best apiarists seldom write anything for publication. In this respect I have personally often felt that by my habit of writing so much, that I am getting undue publicity which my status as a bee-keeper does not warrant, when I know so well that others so much better qualified in the business do nothing at supplying matter for the press. My only excuse is that if the bee-papers are to be printed for bee-keepers to read, *somebody* must do the writing, and as I happen, unfortunately, to have a liking for scribbling, the "excuse" mentioned has been used with a vengeance as a means of allowing me to "get things out of my system" so frequently.

"J. L." Only "Mrs. Byer's Husband"

On page 378, that paragraph heading came from the editorial sanctum, no doubt about the matter. And say, Mr. York, you have paid me a pretty good compliment, for that implies that I had at least sense enough to get a good woman to do the work for me. Do you "catch on?"

It reminds me of the story of the love-stricken youth who while oh, so anxious to get married, yet hesitated for fear that he could not make a living. His more optimistic sweetheart assured him that they could get along even if they had to live on bread and water. The love-sick swain grasped at this as would a drowning man at a straw, and said, "All right, dear; you find the *bread*, and I will supply the water."

And yet, when Mrs. Byer saw the heading referred to, didn't she try to suggest other combinations in place of the one chosen?" But, then, you know, "women are such perverse creatures, anyway!"

[Of course, Mr. Byer can't possibly mean one of Dr. Miller's "stray straws" when he mentions "the love-sick swain grasped......at *a straw!*"—Editor.]

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Sandpapering Sections

Mr. D. M. Macdonald says in the British Bee Journal:

> "I do not care about sandpapering the wood of sections, because some of the fine atoms may cling to the honey. It does not make a fine sample appetizing to find it coated with a fine, powdery dust."

Wonder, now, whether that is spoken from actual experience or whether Mr. Macdonald just imagines that coating with a fine powdery dust. In this locality we have been sandpapering sections for years, and after sandpapering thousands upon thousands we ought to know something about it. If there was any such thing as the fine atoms clinging to the honey, certainly we never noticed it. Of course, it was only the tops and bottoms of the sections that were sandpapered, and they were sandpapered while the whole superful of sections remained in one mass, so the dust would fall straight down, and would have little chance to cling to the honey.

Mr. Macdonald does not say anything about how he gets the propolis off the wood, and surely he would not market his honey with all the propolis left on it. Or is he blest with a locality where there is so little propolis that it doesn't matter? Our earliest sections have very little propolis, but the latest make up for it. If Mr. Macdonald scrapes off the propolis with a knife, or in any other way, is there not much the same chance for dust, although not such fine dust as with the sandpaper?

A Texas Sister's Honey-Crop Report

Dear Miss Wilson:—The honey crop was light—*very* light—this year, but not a total failure. It has been the poorest year we have had here yet, and won't we appreciate next year's good crop that we are expecting? Last year, also, was a rather poor year.

Just at the beginning of the year 1910 everything looked so promising, and catclaw started in in fine shape, and lasted only two weeks then the drouth set in and lasted from May 28 until Aug. 20, or thereabouts. We had no mesquite, no sumac, and almost no live oak, but while the catclaw did last our bees surely did "improve each shining hour."

After the drouth was broken there was a deal of honey-dew, but the bees did not seem to take to it very well, working on it only a short time in the early morning.

The sum of all is, that the honey crop was a smudge!

There is a bush here that I do not know the name of, which bloomed after the drouth was over; and the bees gathered a deal of honey from it. I intend to send some of it to Washington, to find out the name of it. It is a bush which grows very much like the blue catclaw (which, by the way, does not produce honey to any great extent, like the hook catclaw); is thornless, and has very small white flowers and short, slim, straight edges, semi-waxy leaves, which grow in clusters of 5, 6, and 7, each leaf independent, yet protruding from almost the identical spot on the limbs. The tiny sweet-smelling flowers appear just above the clusters of the leaves; and when they cast their petals a berry is formed in their place. The scent of the flowers is similar to that of the hawthorn, and the bees go wild over it while it lasts, which is not very long. I am sending you a few leaves to examine.

I will close with a quotation from Successful Farming:

"Honey draws bees farther than vinegar. Talk kindly to the boys and girls."

Grown folks are boys and girls grown bigger, and they appreciate kindly talk, too, do they not? (Mrs.) M. E. Pruitt.

Eola, Tex.

The leaves enclosed are tiny affairs, from $\frac{1}{4}$ to $\frac{3}{4}$ inch long, and less than $\frac{1}{8}$ inch wide. In their dried condition they do not show their waxiness, but have a whitish look, something like olive leaves. A Northern sister would be lost among the many strange honey-plants that appear common in your big State.

An Irish Swarming Adventure

A lady in County Wicklow supplies the following: On Aug. 2d, as I sat very busy writing in the morning, the postman came running in to tell me a swarm had settled in the high bank on the side of the bee-field. Of course, I threw down my pen and ran to the bank where, in the roots of a furze bush, a swarm had just settled itself in the most awkward place. I had to cut down the furze bush, then lower it to the ground, and what between prickles and nettles and bees, I don't think I ever was hotter in all my life by the time I had the swarm secured in a skep. Then it began to pour rain, which lasted all that day and night.

Next day I went out to put this swarm into a hive. What do you think happened? The whole swarm rose in the air and settled on the back of my hat! How I did long for any one with a camera to take my photograph. Fortunately, I had on my bee-veil, which is made like a bag, so I walked to the kitchen (I was afraid that the sight of me would startle my mother). With the help of our cook I turned my veil inside out, securing the bees quite safely, and then I drove them without more trouble into the hive, which I had made ready for them.—*Irish Bee Journal.*

Where a Woman "Knows Bees"

' DEAR MISS WILSON:—Your excellent and timely article in the last number of the American Bee Journal, "Why Women Should Know Bees,'" has prompted me to write you this letter.

My wife and I were married 5 years ago last June. We live on a small farm, and at present have 30 colonies of Italian bees. We have one little blue-eyed, curly-headed daughter, whose name is "Alice," and she is the sunshine of our home. When she gets hungry, she wants bread and milk and honey.

Well, when we were married my wife had never seen any one handling bees, and of course she was very much afraid of them at first, but she took great interest in them, and in a surprisingly short time she was able to handle them as well as I.

Two years after our marriage I was taken sick; had an operation for gall-stones and stomach trouble. I was in the hospital 4 times, and during all this time my bees were taken care of the same as if I had taken care of them myself. I did not recover from my sickness, and the doctors tell me now I have an incurable spinal disease, and that I will never walk again, as I am completely paralyzed in my limbs. Of course, being a young man (only 33 years old) the future does not look very bright for us, but how thankful I am that the good Lord has given me such a dear wife! Were it not for her, of course bee-keeping would be out of the question for me. I have a wheel chair, and whenever we have important work to do, she takes me out to the apiary, and I do the "bossing" while she does the work. And how we enjoy it!

We got 2700 pounds of fine honey this year, in spite of the awful drouth we had here. When people visit us in our humble little home, or come to get honey, and see me in my helpless condition, they say, "How nice it is that your wife can take care of your bees." Of course, no one can appreciate it more than I do.

Together we study, and plan and build air-castles, and she is just as anxious to get the bee-papers as I am.

Should it be the Lord's will that I should be taken away from her soon, she can now successfully run the apiary herself.

As I suffer more or less pain all the time, and lie on my cot most of the time, I hope you will excuse me for writing this letter with a lead-pencil.

I wish you all a Merry Christmas and a Happy New Year. G. A. BARBISCH.

La Crescent, Minn., Dec. 13, 1910.

Thanks to our afflicted brother, not only for this interesting story of triumph over difficulties that would crush many another, but for so apt an illustration of the advantage of having women —especially wives—ready to carry on the work of bee-keeping in case of need. And the need may come very suddenly at any time. The sympathy of all will go out to this brother and his plucky helpmeet.

What Became of the Honey?

Ye editor inquires where the honey comes in—or on—in the Marengo way of preparing "milk and honey" and bread, as given last month.

It was supposed that when that recipe left Marengo a liberal allowance of honey of best quality was spread on the bread before the cream was poured on. Of course it might have happened that the honey was left out, but then it would not be such a very strange thing that Uncle Sam might have been overpersuaded by such a tempting morsel to do a little filching on the way. Indeed, ye editor himself is not entirely above suspicion. It would not be entirely out of the range of possibilities for the honey to have mysteriously disappeared after getting into his hands, and before getting into the hands of the printer. At any rate, it is well known that ye editor has a very, very sweet tooth.—[Only the fact that the conductor of this department is a lady—and such an estimable lady—prevents us making a tart reply—one like the recipe that was given last month—with no honey in—or on—it. We plead guilty to the charge of having a honey-tooth. But as to "filching honey"—well, it is supposedly a *lady* who intimated that, so we let it pass.—G. W. Y.]

SOUTHERN BEEDOM

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

A Season's Work in the Apiaries for Honey-Production

I have already begun my new season's work, and I expect to do some great things this year. To give the readers of this Journal the benefit of my year's management as it is carried out in my numerous apiaries and extensive business, I have decided to give in each issue the work that I am doing. Since this work is always ahead of the work in the most of our country, the readers who will be interested in these articles may be able to try some of the things that I do.

While I spend the most of the winter-time (especially when the weather outside is disagreeable) in the house, either writing or reading, I am also spending a great deal of my time in planning the season's work. This everybody should do. Without some definite plans no work can be accomplished the most satisfactorily. For this reason I know just what I will need for my increase, the amount of new supplies needed for this, the supers and foundation needed for the honey crop, etc., so much so that all these things have already been ordered and will be here soon, to be gotten together in readiness for the time when they are needed. This will save a lot of worry later on when supplies are so hard to get, and when we might lose part or all of a fine crop of honey because the goods could not be gotten in time.

There are many advantages in getting the supplies in early, besides those mentioned above. The early-order-discount is attractive to me; the goods can be shipped out when there is no rush on, and they are not so long delayed en route, or we need not fear that they will be, hence the delays will not be felt as much as later in the year. Then, it is much better to put the new supplies up at leisure, when there is nothing else pressing, and when labor can be had much cheaper.

When we have the beautiful warm days I feel as if I could not remain indoors, and it is then that I take drives to some of the apiaries to examine the colonies so that some that are in need may not perish. Such as are found are helped with a few combs of sealed honey from the stronger or heavier ones, taking care not to keep the hives open too long and molest the bees too much.

I have described my hives—the shallow divisible brood-chamber kind—in previous articles, but since my season's work is confined mostly to this kind I shall try to acquaint the readers with this part of my work briefly in next month's issue. Be it remembered, however, that I will not devote all of my time to the shallow hives and their manipulations alone, for I have had years of experience with other kinds, and at the present time I have at one of my series of apiaries hundreds of the regular Langstroth hives in use. But I manage them somewhat differently from the old way, and will tell how I do this so that I make practically divisible brood-chamber hives out of these, and manage them very much as I do the shallow hives for the surplus honey.

I hope that I may be able to make my year's management for honey-production of interest to all.

How I Sell Bulk-Comb Honey

Going after trade is one thing—getting the trade is another. This is a subject upon which I have spent much thought for more than a dozen years. There are various ways of selling a good crop of honey, and it remains for the bee-keeper to decide which way will best suit him and his circumstances.

One of the best ways for the inexperienced—the bee-keeper whose business talent is not developed—when he has a crop of honey to dispose of, is to sell it direct to one of the large honey-dealers who buy to ship out to their customers in different parts of the country. In this way he has less trouble and worry with the disposal of the crop of honey, gets his money, and can then turn his attention to something else, or begin on his next year's preparations to produce another crop, to be sold again in the same way. And so this can be done from year to year.

Of course, in this way the price received will be somewhat lower than if he were able to ship the honey out himself, but he can well afford this, leaving the other work for the large dealer to do, while he himself devotes all of his time and attention to the keeping of the bees and producing the crops of honey. Especially would this be the better plan for him if he is not a business man, able to handle the business end of disposing of his crop in a business-like way, in which he may meet with serious losses that would amount to much more than the difference in the price obtained.

So we have many bee-keepers, some who have not enough honey to warrant them shipping it out, while others are extensive producers who prefer to devote all their time to honey-production, who sell their entire crops to a large dealer who re-ships the honey out, making a certain margin of profit on it.

On the other hand, there are those who combine the entire business, not only making honey-production alone a specialty, but devoting their time also to the real business end of the business, that of disposing the crop to the best advantage. And to this class nearly all of our foremost bee-keepers belong. Although the time was when very few of them did this—selling their product to larger dealers as above mentioned—the number of real business bee-keepers is on the increase, and the number of these is quite large at present.

The most general method employed is to send out each year, just before the honey crop is ready to harvest, an annual price-list of names of firms and persons who buy honey, obtained in various ways. These are not necessarily dealers of any kind alone, although many of the honey orders come from them; but there are numbers of customers who buy their supply of honey for their own private use direct from the producer. Some of these buy their honey every year in this way, quite a number having bought from me for more than a dozen years. As time goes on, therefore, the lists increase in number of names, especially if the producer is careful to make a reputation for his honey by sending out nothing but that which is first-class in every respect. In this way the honey will advertise itself, adding annually new customers to the list.

There are also various ways of sending out these price-lists. One of these is to write to each person or firm something like the following, for which circular letters, either printed or copied, may be used to advantage:

DEAR SIR (OR SIRS):—We are sending you our prices of honey. The crop over the State is short this year on account of the drouth, but our honey is of the most excellent quality and flavor. A trial order will convince you.

On account of the short crop the price is slightly higher, and for this reason it is an advantage to buy your honey direct from the producer in case lots, and save all the middlemen's profits.

We guarantee personally every pound of honey that we ship out, under the State and the National Pure Food Laws, as being absolutely pure honey. Our prices are f. o. b. our shipping points here:

COMB HONEY.

60-lb. cans with 8-in. screw caps, 2 in a case, per lb	11c
12-lb. friction-top pails, 10 in a case, per lb	11½c
6-lb. friction-top pails, 10 in a case, per lb	12c
3-lb. friction-top pails, 10 in a case, per lb	12½c

Extracted honey in the same sizes of cases and cans 2 cents per pound less.

Our terms are sight-draft attached to the bill of lading.

Trusting that we may hear from you if you are in need of some good honey, we are,

Yours very truly,
THE LOUIS H. SCHOLL APIARIES.

The letters are to be on the producer's regular stationery, which bears the letter-head of his business at the top, and is thus an additional advertisement for him and his goods.

Another way that we often employ is to write the letter separately from the price-list, often writing a personal letter to an old customer or a reliable firm, and then inclosing a printed price-list reading as follows:

COMB AND EXTRACTED HONEY.

We are prepared to make prompt shipments of both Comb and Extracted Honey of superior quality and flavor. Sample upon request. Prices f. o. b. New Braunfels, Tex.

EXTRACTED HONEY.

60-lb. cans with 1⅝-in. screw caps, 2 in case, per lb	9c
12-lb. friction-top pails, 10 in case, per lb	9½c
6-lb. friction-top pails, 10 in case, per lb	10c
3-lb. friction-top pails, 20 in case, per lb	10½c

COMB HONEY.

60-lb. cans with 8-in. screw caps, 2 in case, per lb	11c
12-lb. friction-top pails, 10 in case, per lb	11½c
6-lb. friction-top pails, 10 in case, per lb	12c
3-lb. friction-top pails, 20 in case, per lb	12½c

TERMS:—Sight-draft, bill of lading attached, subject to examination.

Soliciting your early favors, we are,

Respectfully yours,
THE LOUIS H. SCHOLL APIARIES.
New Braunfels, Tex.

This same price-list is also often simply enclosed with letters of general correspondence to various persons, often bringing orders from those that it is least suspected. It has often happened that we were requested to send a lot of these lists to certain persons who had enquiries for honey, and the results have always been very satisfactory, indeed.

I have found that it is the cheapest way of advertising my honey, and I have always been able to sell more honey than I could produce, often having to resort to buying a great deal more from other reliable producers to help fill the demand. This method of advertising is by far better than advertising in newspapers and other periodicals, although these may also be used at times. But this is more expensive, and the results are not always as certain as the letter idea, so I have never used that method.

After a producer gets started with a long list of customers, whether they all buy from him every year or not—and he strives constantly to give the best of satisfaction, furnishes the very best of honey, so that it will advertise itself from place to place—he will not have any great trouble about disposing of his annual crop of honey, and at a good price.

CONVENTION PROCEEDINGS

The Pecos Valley Convention.

The Pecos Valley Bee-Keepers' Association, comprising the counties of Chaves and Eddy, met in Roswell, N. M., Oct. 5 and 6, 1910. Pres. R. B. Slease, of Roswell, called the meeting to order at 9:30 a.m. the first day. There were over 30 bee-keepers present during the convention.

The minutes of the previous meeting, held June 20, 1910, at which time the organization of bee-men was effected, were read and approved.

The bee-men of the Valley ship several cars of honey to the market annually, but owing to the exorbitant freight-rates charged they are not able to compete successfully with honey-producers in other parts of the country In the endeavor to overcome this condition the following petition was approved:

PETITION.

To the Hon. J. Brinker, General Freight Agent of the Eastern Railway of New Mexico:

At a convention of the Pecos Valley Bee-Keepers' Association held in Roswell, N. M., Oct. 5, 1910:

We respectfully petition you for your aid in securing for us a lower rate on honey from the towns of Roswell, Dexter, Hagerman, Artesia, and Carlsbad, in the Valley, to Chicago, Ill., and Kansas City, Mo. We have now much more honey than we can sell at home, and we can easily increase our product, and desire to do so. We wish in the future to be sure of selling all the honey we can produce, and we feel compelled to ask for lower rates to the large honey markets of Chicago and Kansas City.

Among our Western honey-producing States, Colorado takes first rank, and we would come in competition with its immense honey product.

We understand that the distance from Denver to Kansas City and Chicago over the Santa Fe railroad is virtually the same distance as those cities are from Roswell.

The carload rate from Denver to Chicago on "comb honey in boxes with glass fronts" is 97 cents, and on "extracted honey in tin cans boxed," is 75 cents per 100 pounds.

We earnestly desire to obtain the 97-cent rate to Chicago that Denver honey shippers pay on comb honey in boxes with glass fronts.

We also ask for a 66⅔ cent rate to Chicago on extracted honey, that being $200 per carload of 30,000 pounds, which is about two-thirds of the rate that we have asked you to make on our comb honey, and it is about, and perhaps above, the average proportional rate from other States. For example, the California rate on extracted honey is just one-half as much as its rate on comb honey. This we have just learned from the Santa Fe railroad office in Chicago.

Another reason why we desire a lower rate on extracted honey is, for some reason unknown to us, honey is darker in color here than the Colorado honey, and though equal in quality the price is invariably cut down from 1 to 1½ cents per pound on account of this amber color.

Another package mentioned in the Western Classification on which we would like proportional rates, is on "comb honey in boxes," no glass.

We further desire rates to Kansas City that would be about proportional to what we have asked for Chicago.

It would be desirable, frequently, to send both comb and extracted honey in the same car to make up a full carload. This is done elsewhere, and each kind is billed out at its own rate, and we ask that this feature shall be arranged to accommodate us. We have been assured that you have taken a kindly interest in helping out various industries of the Pecos Valley, and now that we are in need of help we come to you for assistance, and will be ever thankful for such aid as you can give us.

On behalf of the convention.

R. B. SLEASE, *Pres.* HENRY C. BARRON, *Sec.*

We, the undersigned being among the largest shippers in the Pecos Valley, and dealing quite extensively in honey ourselves, are interested in securing for our bee-keepers an outlet for their surplus honey, and we gladly join them in asking that their petition be granted.

Joyce-Pruit Co.,
Roswell Seed Co.,
Per J. E. Gill.
Jaffa-Prager Co.,
Roswell Trading Co.,
Roswell Hardware Co.,
E. A. Cahoon,
Cashier First National Bank.

The foregoing petition was given to Pres. R. B. Slease and G. E. Dudley, with the request that they secure the names of the large honey-shippers from the Valley, which they did.

The following is the petition to the County Commissioners:

PETITION.

To the Honorable Board of County Commissioners of Chaves County:

Gentlemen:—At a convention of the Pecos Valley Bee-Keepers' Association, held in Roswell, Oct. 5, 1910:

We hereby petition your honorable body to fix the price of colonies of bees for taxation at $1.00 per colony. We look in vain over the various States of the West to find where they are taxed for more than $1.00 per colony. In many of the States they are not taxed at all. Like poultry, they are looked upon as a small industry that needs the encouragement of the local government, and are seldom taxed. Our market here is slow and uncertain for selling honey except in small lots, and the railroad tariff prohibits sending it to the large cities of our country for a market.

The hive containing the bees is the only thing about a colony of bees that could be well considered as taxable; for bees are insects, and have been repeatedly passed upon by the courts of several States as non-taxable. However, we are willing to be taxed, and as hives average, we think $1.00 per colony would be fair, and by this petition we ask that that valuation be placed upon each colony.

All of the members of the Association, with hardly an exception, own real estate or other taxable property in this county, and we believe that in granting this petition you will be encouraging an infant industry that may develop into larger proportions as the years roll by and yield good results.

R. B. Slease, *Pres.*
Henry C. Barron, *Sec.*

A committee composed of Messrs. J. W. E. Basham, Robert Beers, and Arthur J. Stevens was directed to present the foregoing to the commissioners at once.

Colonies of bees are now assessed at $2.00, which would make their actual value $8.00, considering that taxation is based on ¼ actual valuation. In many States bees are not assessed at all, being classed with poultry and other small industries.

The freight-rate on honey to Chicago is $1.30 per 100 pounds, which prohibits its shipment from the Pecos Valley, consequently the local market is flooded with honey.

John E. Gill, of the Roswell Seed Co., asked that the bee-keepers of the organization arrange to make their purchases from his establishment, or if the association desired to handle all the bee-supplies themselves, he suggested that they buy the stock he now has on hand, which amounted to about $10,000.

After a thorough discussion, it was decided to recommend Mr. Gill to continue their branch of his business, but the members of the association would not bind themselves individually or collectively to make their purchases from his house. This decision was made for the reason that a number of members were partial to other dealers in bee-keepers' supplies.

Some Members of the Pecos Valley Bee-Keepers' Association.

(Commencing on the left)—Seated:—1. George E. Dudley. 2. Ernest Nelson. 3. J. W. E. Basham. 4. William N. Green. 5. N. A. Palmer. 6. R. B. Slease. 7. Henry C. Barron. 8. Dr. M. M. Brayshaw. 9. R. H. Crawford.
Standing:—1. B. H. Crawford. 2. N. C. Smith. 3. C. Vanden Bout. 4. S. T. Crawford 5. Robert N. Beers. 6. W. H. Crawford. 7. A. J. Crawford. 8. Mrs. A. J. Crawford. 9. Miss Irene Basham. 10. Henry Adams.
On Porch of Hotel:—1. C. M. Hester and son "Clay." 2. Bryan Foster.

In the course of Mr. Gill's remarks, he suggested that the convention endeavor to secure a special express-rate on all their bee-supply shipments, products, etc., which was done. Mr. W. M. Baldwin, the local Wells-Fargo agent, suggested that the secretary of the association write him a letter giving the volume of business and amount of shipment of supplies, products, etc., in and out of the Valley. The secretary was instructed to do this.

Thursday afternoon a question-box was conducted, and the time was largely spent in discussing subjects pertaining to bee-culture. The fact developed that there is no foul brood in this Valley.

The request to the County Commissioners to appoint a bee-inspector was deferred until their meeting, which will occur the first Wednesday in March, 1911.

What Size Hive Shall We Use?

W. H. Crawford favored the 8-frame hive, confining the queen to one hive-body by the use of a honey-board.

Pres. Slease said as the two outside frames are not used for brood-rearing, he would prefer the 10-frame hive, thereby building up the colony more rapidly.

A. J. Crawford favored the 10-frame hive for either comb or extracted honey, giving the queen a range of the entire hive. He has produced 366 pounds of honey per colony in one season.

Mr. Basham prefers the 10-frame hive for all purposes.

Messrs. Dudley, Adams, R. H. Crawford and Marabee favored the 8-frame hive.

Mr. Nelson purchased bees in 8-frame hives and transferred them to 10-frame.

Mr. Barron has used a diversity of hives, and for many reasons would select for this part of New Mexico the Massie divisible hive for extracting, and the 10-frame Jumbo double-walled hive for queen-rearing.

The subject of queen rearing and mating was very intelligently handled in detail.

Best Breed or Strain of Bees.

The convention was about equally divided in support of 3-banded Italians, Carniolans, and the hustling goldens, while the German-browns, Banats and Cyprians were favored in many instances. By continued breeding from selected individual colonies of these named, a superior bee in markings, comb-cappings, and energy, will result. The strains already in the Valley are pure.

Owing to the danger of importing bee-diseases being great, it was thought advisable to ship no more bees into Chaves and Eddy counties.

Early spring stimulating was not strongly advocated, but it was admitted that it was necessary to feed between the close of fruit-bloom and the opening of alfalfa.

Absorbent cushions or sealed covers received marked attention, and seemingly were about equally favored when considered as to the individual location of the apiary, strength of colonies, etc.

The new steam-heated uncapping-knife met with favor, and several bee-keepers will, if possible, use it during the season of 1911.

Wednesday noon the convention enjoyed an elegant banquet prepared by the genial host of the Roswell Hotel.

Bee-Industry in the Valley.

The membership of the convention represented 3185 colonies of bees, which, at an average of 80 pounds of honey to the colony, would amount to 254,000 pounds, or 9 carloads of 30,000 pounds each. It is a safe average to consider 12 pounds of honey to the gallon, which will bring the bee-keeper $1.00, and reducing the total amount to gallons at the value here given would make the tidy income of $21,233.

The convention agreed that 25 percent of the production is profit.

The convention had fixed the following prices to govern for 1910:

				Wholesale	Retail
Extracted,	5 gal.	No.	60	$5.00	$5.00
"	1 "	"	10	1 00	1.15
"	½ "	"	5	55	.60
"	¼ "	"	2½	30	.35

Comb, 24-section case, $3.00; No. 1, per section, 15 cents.

Comb, 24 section case, $2.75; No. 2, per section, 15 cents.

Chunk or bulk, wholesale 12½ cents; retail, 15 cents per pound.

Few persons who comment on the unusual quality of the honey on their table, or simply see the little sections of clean, clear honey in the local stores, realize the importance and extent, and also the profit, due to the superior advantages offered in this Valley in the bee-keeping industry. A. I. Root has said that "the New Mexico, Colorado and Arizona honey is the finest in the world, and in the Eastern markets brings the top price."

The natural advantages for the bee-keeping industry in the Pecos Valley are exceptionally good; the seasons are long, the fruit-trees are plentiful, and the continuous secretion of nectar in the alfalfa is greater than in other localities, as in this Valley alfalfa is never without sufficient water; however, the majority of bee-men here think that the crops should be greatly extended before many more bees are brought in, as there is a possibility of having too many. Three acres of alfalfa will support a colony of bees.

The convention adjourned to meet the first Wednesday in March, 1911, at 9 a.m., at Roswell, N. M.

Henry C. Barron, *Sec.*

[Mr. Barron later informed us that both the Eastern railway of New Mexico and the County Commissioners granted the rates asked for in the petitions presented by the association.—Editor.]

CONTRIBUTED ARTICLES~

Honey-Flows—Some of Their Uncertainties

BY R. C. AIKIN.

I feel like telling some of my troubles; misery loves company; and I am lamenting at the present time a complete crop failure. Let me see, I said a failure—it is well-nigh a half-dozen of them.

About 36 or 37 years ago—my, how the time flies!—I started in the bee-business. That was in Iowa. For several years there was scarcely a failure, always at least a little surplus, and usually a very good one—would have been big if I had known as much as I do now about how to get them. Then came 3 or 4 years, may be 5, of poor and very poor—heavy losses and discouragements. After the very worst of these bad years, came a flood of honey in which I got the biggest average yield I have ever had, increase from 11 to 28 colonies, and an average, spring count, of 227 pounds of honey per colony.

Not long after this I left there, and from the time of my leaving for several years there was scarcely any honey, and almost all bees in that part of the country perished. Reports from there since indicate a succession of ups and downs, culminating with a good crop this year—at least that was the report in this Journal, by my good old-time friend, Mr. J. L. Strong, of Clarinda, Iowa.

About 21 years ago I took up the business in this State (Colorado), and have been at it extensively ever since, making it my specialty and doing little else. I think in the past 20 years I have never handled less than 200 colonies, and from two to three times that, much of the time. I speak of these numbers not to boast, but simply to show the extent of experience. There is a great difference between one operating a very few colonies in one yard as a side-issue, and perhaps with few bees in the community, and that of working over a territory of 15 to 20 miles in diameter with several apiaries.

My very first year here gave an average yield of 150 pounds of finished comb honey per colony. The second year it was 100, the third about the same; then down to about 40 or 50, and varying ever since from 10 to about 75, until the past 5 years, when there has not been a general average in my apiaries of over 10 to 15 pounds for the 5 years; the year 1909 practically nothing, and this year (1910) less than winter stores.

I used to think that a total failure could scarcely happen in this part of the country, but it has, and that over a large area, 100 miles or more in diameter. I am afraid I will not be able to give any satisfactory answer to the wherefore of it.

In a general way drouths have had something to do with it; when there is not the usual amount of rain there is suffering at times for moisture, more especially in winter and spring, for no irrigation is done in winter, and little in the spring until crops are well started and the summer heat is sufficient to bring the snow waters from the heights. Then if there has not been enough snow on the hills to water all, some fields have to go without. I feel almost certain that these causes cut off some of the crop. A well-watered field may give a fair yield, and a dry one little or nothing. Dry weather just when the flow is on is all right if the ground is well moist at the plant-roots.

It would seem that plants that have not had a healthy growth, that have suffered at some time through their development, are not in condition to yield well. Neither will they yield well after a good growth and development if the weather is abnormal when the yielding-time is on. It is my opinion that very hot weather, with a very dry air, inhibits nectar-secretion, and this we have had the past 2 years.

I have seen about 4 or 5 years in the past 20 in which the sweet clover yielded scarcely any, and others in which it was more or less of a failure. Alfalfa blooms in June and July, sweet clover in July and August. As a rule, the alfalfa is blooming at the best part of the season when conditions favor nectar-secretion—the heat is not too great, and more moisture in the air. Sweet clover is not watered by irrigation; it grows on waste ground, as along roadsides, in fence-rows, on ditch-banks, and about the edges of swamps and in sloughy places. If there is plenty of irrigating water, of course the ditches are filled, and the swampy lands are also well supplied, and the growth in these places get water, so in most years it happens that both alfalfa and the clover get water at least in part, and both yield some; such years we seldom fail to get at least a partial crop, taking both sources; only twice in 20 years have the colonies failed in getting winter stores.

But we have two principal hindrances. Of late years it is the custom of the farmers to cut the alfalfa before it blooms, or very soon thereafter, so the range or extent of pasture from that is very much reduced, so much so that the bee-keeper can almost tell by the work in the yard just about how the haying is progressing. This is a very serious matter of late years, so much so that if it had not been for the increase of clover we would have been almost or quite driven out of business, except in wheat-growing and alfalfa-seed growing districts.

The second great drawback is grasshoppers. These seldom are plentiful and large enough to get the first crop of alfalfa, but by the time the clover is on, they are getting in their work. It is a lamentable fact that the amount the hopper eats is by no means his only damage; alfalfa or clover that has many hoppers on it will not give nectar, even though much bloom is left. Grasshoppered alfalfa hay will not be eaten by cattle or horses if they can get anything else—they will almost starve on it. If the hoppers are on any crop in numbers to feed on about all the plants, that ends the prospects for a crop of honey. This year (1910) we had abnormal conditions all through the season—late and early frosts, rapid changes between heat and cold, and general untoward climatic conditions—and grasshoppers galore.

I suppose there will be good years again, but when, no man knows. At present it looks as if when the good years do come again there will be so few bees to gather that some phenomenal yields may be expected. So long as Satan is the prince of this world—the prince of the power of the air—we may expect these things, and many reverses. So long as men continue in the service of Satan no doubt there will be not only crop failures, but should one obtain the crops, will he be able to get his share of its proceeds?

Loveland, Colo.

National Bee-Keepers' Association

BY DR. C. C. MILLER.

I don't believe in papers and speeches at bee-conventions. We can read the papers in the bee-periodicals and reports. Time taken up with a speech of welcome and reply, in which speeches we are told that we are welcome at Smithville, and how many pairs of stockings are made at the Smithville stocking factory, is time wasted. There are two things that we go to the convention for, and we can not have them without going there. First, meeting face to face old and new friends; second, face-to-face discussions. So the more time taken up with discussion the better the convention; and every paper left out increases the interest of the convention.

Exception, however, must be made in the case of the President's Address at the National convention at Albany. (See November American Bee Journal.) It is so actively aggressive, so bristling with suggestions, that it challenges attention, and the resolution of the committee with regard to its discussion emboldens me to say something about it, even though it proves a "live wire."

Along with the encouragement that "the National Bee-Keepers' Association has done most excellent work for its members during its many years of existence" is the discouraging word that "The organizations of the future must be far ahead of those of the past ......or they will fail utterly." Is it so bad as that? Even though the work of the National merely hold on its level way, will the failure be utter? Still, if there is room for improvement, by all means let us have the improvement.

About the cutting out part of the Board of 12 Directors. It is argued that it takes the general manager too long to get replies from so many. Will it take longer to get answers from 12 than from 3, provided the most distant director be the same in each case? But I must say that the business has not seemed to be any better done since the number was increased to 12 than it formerly was done with only 5. With the smaller number there is likely to be a greater sense of responsibility, and there is more likely to be found one negligent among 12 than among 5, so that likely after all the smaller number would tend toward greater dispatch.

"We must get away from discussing the *minor* things of bee-keeping" is a statement that will hardly receive a hearty "Amen" from the rank and file of bee-keepers. With them the disposing of the crop is not a matter of greater concern than the different items involved in the securing of it. Likely, however, the thought was as to its importance from the view-point of *united action*. And when it comes to that, there can hardly be any diversity of opinion. Take 10 bee-keepers in the same locality, and one of them may conduct his apiary in the most approved up-to-date manner, even if the other 9 are all back numbers. He is entirely independent of what they may do. But when it comes to the matter of selling, he is anything but independent. If the other 9 sell honey for half price, he may as well give up all thought of getting full price for his honey in that market.

The matter of disposing of the crops can only be properly done by united action, and among all the things that require united action that same disposing of the crops stands first and foremost.

The suggestion that the meetings of the National be changed as mentioned is revolutionary. The proposition is really to change the annual meeting from a convention to a legislature. And there is much to be said in its favor. When you come right down to it, the National convention is largely a matter of local attendance. It is a State convention, with just a few added from farther away. And if instead of the annual convention of the National we can have a number of representatives meet to devise schemes and lay plans to help all of us in the disposal of our crops, there might be a great gain.

But when it comes to carrying out the scheme in detail, the thing looks a little foggy. The President, in his address, suggests the meeting of 100 representatives. For one, I should feel like being still more revolutionary, offering, if only as a question, whether 25 might not be better than 100. Perhaps I better not say anything more about details lest I get too far beyond my depth.

But of one thing I feel pretty certain, and that is that if there is to be any getting together of bee-keepers to spend anything in the line of advertising, the matter must be so arranged that those who furnish the money will see some special advantage accruing to themselves. Ask bee-keepers to chip in a dollar each for something that will benefit alike every bee-keeper in the country, whether he contributes or not, and the responses will be exceedingly few. Get the wide-awake bee-keeper to see that benefits will come to those, and to those only, who "chip in," and his dollar is promptly ready.

Marengo, Ill.

Improvement in Honey-Bees

BY DR. A. F. BONNEY.

However desirable improvement in our honey-gatherers may be, we have a problem which will not be solved in this generation of men; not because more or less intelligent effort is not being constantly made, but because we are dealing with an animal in which development ceased ages and ages ago. Its environments changing its progress, physical and possibly mental, stopped. For all we know, the bee we have to deal with is the same insect man found when he came on the scene—the identical creation the ancient Egyptians carried up and down the banks of the river Nile to keep in touch with the flower-bloom. There is sufficient proof in Holy Writ that man had the bee in olden times, for therein we read of "a land flowing with milk and honey." There must have been some pretty good honey-gatherers in those days thus to name a country. I can not help wondering how the honey-gatherers of today would compare with those old-time bees.

The bee is often pointed to by enthusiastic investigators as the most perfectly specialized insect in the world; but while I cheerfully admit much that is claimed for it I can not assent to this, for it is apparent that all insects—each in its own way—is as highly specialized. I even incline to the opinion that the entire insect world ceased to develop some time in the great Past, ages untold before the vertebrated animals came on the scene. There is no evidence that the bee of today is one whit different from the bee of 4000 years ago; that the silk-worm offers characteristics which will separate it from others of its kind which the ancient Chinese used; that the ant, pointed to by the inspired writer, is not the same ant it was untold thousands of years ago; and in connection with this, let me ask, "What is specialization."

Not one bee-keeper in a thousand can give an intelligent answer—perhaps not in five thousand, for it is hard for even the lexicographers to make it clear to inquiring readers. However, I may state that "to specialize" is to put a stop to a particular kind of development. "Limit to a particular kind of development," the Century says. The animal, or the specie to which it belongs, has done one thing so long that it has ceased to do or even *think* anything else; and the question early came to my mind, if it is possible to improve an individual of a specie. Can we take an animal which, ages ago, ceased trying to do anything else than gather honey, and "improve" it, using the word in its most flexible sense? Let us see?

The Century, again, for there is no better authority, "Specie, in biology, that which is specialized or differentiated."

"Strain, a variety, especially an artificial variety of a domestic animal."

Because a good friend once asked me, while arguing about non-swarming bees, if there are not "sports" among bees which might be developed into a non-swarming strain, I introduce the word sport here, for I may find occasion to refer to it further on.

"Sport, in zoology and botany, an animal or plant, or any part of one, that varies suddenly and singularly from the normal type of structure, and is usually of a *transient character*, or *not perpetuated*." (The italics are mine.)

The Good Book says: "Go to the ant, thou sluggard," and the reason this insect was used is because it is more apparently busy than the bee, but differing from the more valuable insect in that while it toils unceasingly there is nothing to show for it which will interest man—merely stores to last them over winter and another generation of ants. As in the case of the bee, progress ceased ages ago, so long since that the memory of man runs not to the time when the ant was different from what it is now.

I can best illustrate this by telling of something I once saw out in the desert of New Mexico. Away up at the head of Canyon Laguna is a cave. This is above the level of the surrounding country, and the projecting roof extends so far that the Storm has never laid its wet finger on the floor of the cavern. In the rear part of this cave is a hole the size of a babe's head, and into and out of it a vast swarm of ants is going incessantly.

They travel from the nest-hole in three well-defined paths which radiate from the nest like spokes in a wheel, and so long have the little insects been there working out the task assigned them by the Great Spirit that their little feet have cut out paths in the solid rock which will take in my thumb. How long, think you, have they traveled there? Certainly no longer than the bees have been carrying nectar to the hive.

In ages past animals lived which perished from the face of the earth so soon as environments changed which had given them their special food. The mastodon, mammoth, saber-toothed tiger, giant sloth—a hundred pages of this magazine would not serve merely to mention their names! Other animals, when their food supply was changed, but not cut off, did not perish; instead, they ceased to progress. They became specialized, probably ages before man came on the world's stage to play his foolish little part.

We talk and write glibly about improving the bee, misled, probably, because other men have created *strains* in horses and chickens, causing the horse to do special work and the chicken to lay more eggs. We even mention specialization as evidence that we may hope to attain to some wonderful condition—as non-swarming—not seeming to realize that we are advocating decapitating to bring a man to life, just as doctors, not many generations ago, advocated bleeding a man to stop a hemorrhage; and lawyers tortured men to make them tell the truth. We do not seem to realize that specialization put an end to physical and probably mental improvement so long time ago that the bee has probably lost almost every memory of other conditions.

But look at the reversion of type! The hive-bee will today build comb on the limb of a tree under certain peculiar circumstances. Could I offer more conclusive evidence that the bee has progressed from other and lower forms? for there is a bee, *Apis dorsata*, see "A B C and X Y Z of Bee Culture," under title of "Bees," which still builds its comb out-of-doors. That *Apis mellifica* has ceased to progress, is *specialized*, no one, I opine, will deny.

Had we to do with an animal which had not ceased to develop, or, rather, progress, we might hope to create a strain, "an artificial variety of *domestic* animal," but, let me suggest, it is practically impossible to improve an animal which is wild by nature, as the bee is, always was, and always will be. Did you ever try to "tame" a wild-cat or a hyena?

It is difficult to handle our flexible language as always to make a meaning clear to all who read, but there is a distinction and a difference between a tame and a wild animal, between one which has been domesticated and one that is wild by nature—one which can never be brought under man's control. There are in the world today scarce a dozen domesticated animals, certainly not 20 out of the thousands of species known to man. Those who point to the Good Book to bolster their argument about new strains of bees simply acknowledge their own weakness, for man has not, and never had, dominion over the brute creation; only a very, very small part of it. It really seems to me that it is the bee-keeper and not the bee that needs improving.

The Ancient and Honorable Art of Apiculture is not so sacred as to be above investigation; its followers are certainly fallible, because human, one proof being that they write learnedly of "Hybrids," Sports," and "Strains," and a few—a very few—go into raptures over non-swarming, non-stinging and long-tongued bees. In other words, they hope, or seem to hope, to take the bee where the Creator left it and improve on it.

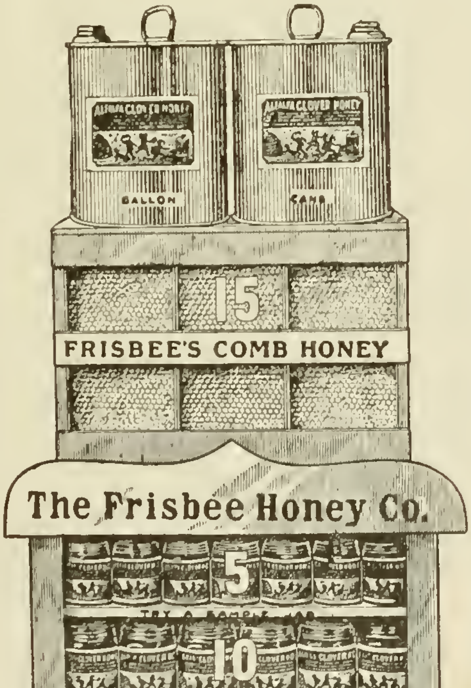
Do we, or do we not, need an improved strain of bee-keepers?

Buck Grove, Iowa.

City Honey-Selling—Necessity of Attractive Displays

BY J. CHARLES FRISBEE.

As I have had a life-long experience in the production and marketing of comb and extracted honey, I take pleasure in giving what I have learned in this city during the past 20 years.



Frisbee's Honey Show Case

In 1890 we purchased the then largest apiary to be found in Colorado, and started to supply the retail trade of Denver with comb and extracted honey, and found it up-hill work for the first year on account of the poor-style packages furnished the grocers by the commission merchants and farmers.

At first we would have one grocer after another say, "We do not want any more of that stuff; look at that." And he would point to a lot of dusty, fly-specked jelly-glasses or Mason jars, on some high or obscure shelf, filled with dark (usually) granulated honey without any label. How could he expect to sell a glass of honey like that?

Our first thoughts were how to rid the market of such a package, and keep it out. We were satisfied the honey was pure (with but few exceptions), so we decided to buy it and supply them with a jar that would be attractive, and show them that extracted honey would sell, if put up neatly and attractively, and suitably labeled.

We spared no expense, and in 1892 we had made for us a clear flint jar holding about a pound. This jar had a glass cover and rubber band with wire bail to seal tight, with our firm name blown in the covers. We used over 50,000 of these jars and got the trade started in the right direction.

After these were disposed of we found room for progression, and a need of different size jars, which we had made for us in three sizes, and that would sell for 5, 10, and 15 cents each. These jars have nickel screw-tops with cork-liners, and are the best style jars we ever had, both for home and shipping trade.

When we found we had the right size and style jars, the next thing was a suitable label for them. We made up a pretty design in three sizes, and had 150,000 beautifully lithographed in colors. We are still using this same label.

To complete our work and success, we designed the "Frisbee Honey Show-Case," as shown in the illustration herewith.

The case contains two dozen of each size jars. The front is glass, 12x14 inches. The woodwork is finished in white enamel, which makes a neat and durable finish. A specially designed case for comb honey is here shown, with two one-gallon cans on top to complete the display.

The cases open from the back with a door, which leaves the fronts intact, making altogether a beautiful pyramid or display for the retailer. We now have in use, in Denver alone, over 700 of these cases, the advantage of which can readily be seen. They give our (registered) brand of alfalfa clover honey a prominence that nothing else could do. They keep the jars always neat and clean, and right side up. If jars of honey are handled by every one that comes in, they are much more liable to leak, and the loss by being picked up by nimble fingers is no small matter to the retailer.

The retail price being on the glass front, and the case in a prominent place, many a jar is sold that never would be if set back on a shelf in the usual way.

Comb and extracted honey is a

rather peculiar line of goods, and must be shown in a case by itself—as we have demonstrated for many years—to have any success with it. This is verified by the number that have gone into the business in this city to make a fortune; but who soon left for other lines of trade.

The above reasons, and many others that could be given, show the advantages of special display cases, and the necessity of attractiveness for the retailer of this line of goods.

Have your honey in the proper shape, always exchanging it when it shows the least bit of granulation, and every retailer in your city will handle it, and you will find your market is permanently established. (This is a hint at what others can do along the same line in other cities.)

Denver, Colo.

The Vitality of Honey-Bees

BY C. P. DADANT.

Do modern methods, especially the restricting of natural swarming and the rearing of queens by artificial means on a large scale, have a tendency to weaken the race? In other words, do the domesticated bees, as well as other domesticated animals, lose some of their vitality by domestication?

At the first thought, I would answer, positively, No, to both questions. But this negative reply must be formulated with some exceptions. To be well understood, we must consider the matter under its different aspects.

First, let us propose a point upon which we are all agreed. The greater or less vitality of the race can be affected only through the instrumentality of the queens, or of the drones, since they alone are the reproducers. It is therefore only in the choice and rearing of these reproducers that we find any occasion of ameliorating or deteriorating the race.

That the distinctive characters of a race may be considerably changed does not admit of a doubt. But the changes are more or less rapid in the inverse ratio of their importance. For instance, the shade and the width of the yellow rings upon the abdomen of the Italian bees, or of the Cyprian bees, may be changed in a very few generations. In this country, where the Italians have for over half a century been considered as superior to the other races, some breeders have succeeded in producing much yellower bees than the average of the Italians in their native country.

Knowing that the yellow bands are the most palpable evidence of the purity of the worker-bees of that race, the breeders for many years placed their attenion most especially on color, and kept breeding from their yellowest queens. By this method a race of "golden Italians" was promptly obtained, in which the color was so dominating an influence that the first mismating with common or black bees did not produce any black bees at all, but only a slight decrease in the width of the yellow rings. They were golden to the tip. The excess in that line was not secured without loss on other sides. Not only did the in-and-in breeding for color decrease the qualities of activity and prolificness so marked in the ordinary Italians, but it even produced degeneracy, queens that would not lay, albinos and white-headed drones totally blind. That is why, within a few years, a reaction took place, and the leather-colored Italians were welcomed as an improvement. This was due to the very plain fact that the latter named had been bred and selected for their honey-producing qualities, and not at all for their color.

If, in order to secure a non-swarming race of bees, we were to commit the same fault, we would still more rapidly deteriorate the race. Selecting as breeders of our young queens the colonies which did not swarm, without taking into consideration their activity, their prolificness, and their honey-producing qualities—which are, above all, most important—we would naturally secure our breeders from undesirable colonies. Certainly they would swarm less than the others, and this would be due to the self-evident fact that they were less active, less prolific. This would cause a prompt and easily explained decrease in the usefulness of the breed.

The selection which, to my mind, will be the slowest to produce positive results, will be that of the most prolific and most productive colonies, manipulated in such a manner as not to induce swarming. When we succeed in avoiding natural swarming in some of our best colonies, by minute and constant attention, supplying them with ample room, plentiful shade, abundant ventilation, etc., we may be able to improve the race by taking our breeders, queens and drones from these same colonies, but reared elsewhere. At the same time we must avoid permitting the lesser colonies to furnish any increase. Every time that we will manage one of the best colonies so as to prevent its swarming, and will allow one of the poorer ones to cast a swarm, we will make a step towards deterioration. The method to be followed in swarm-prevention is to make an artificial rearing of queens from our most desirable colonies, and use these queens to supply the swarms or artificial divisions from our mediocre colonies.

However, some one perhaps will say that the production of a non-swarming race of bees is a utopia beyond our reach. Perhaps not altogether, but as the swarming tendency is the only method by which the honey-bees have perpetuated their kind, and repaired losses caused by winter, diseases, and enemies, it is not likely that for many centuries we will be able to produce a non-swarming race of highly active bees. We can at best weaken slightly this tendency by methods of management, which would fail in their results as soon as they were slightly neglected.

But how about the artificial rearing of queens? Will this have a tendency to weaken the race and decrease its vitality? I can not see why it should have any bad influence if it is carried on under favorable conditions. Here, again, there is room for good or bad administration. We must not only select our breeders, queens and drones from the best colonies, but we must rear them in the best possible conditions of warmth and food. The larva from which a queen is produced differs in nothing from the larva that will produce a worker at the time of its hatching from the egg. Yet, the queen will have a much larger abdomen, and a larger body; she will have the desire and ability to mate and to lay millions of eggs. Her sting will be curved instead of straight, and she will not be provided with pollen-baskets.

On the other hand, the worker will be an absolute neuter; will have but an abortive ovary, capable only in a few instances of laying unfertilized eggs, hatching only as drones; she will be active and aggressive instead of retiring and home-staying, and will die in the field. All of these differences in structure and character will be acquired by each of the two insects during the 6 or 6½ days of larval stage, and will be due entirely to the size of the hatching cell, and to the quality and quantity of the food consumed during this short time. We can not lay too much stress on this fact. Our queens, in order to have all the attributes of queens, all of their prolificness, must be reared in positively royal circumstances.

I believe that the latest methods of queen-rearing will respond to all the requirements. The queens, however, must be reared from the best blood, in the midst of plenty. Neither food nor bees must be lacking. I have seen hundreds of queens reared by the Doolittle method, in full colonies, as well provided and housed in as large queen-cells as with natural swarming. I can see no reason why such queens would not be as healthy and as prolific as the best of naturally-bred queens.

The advantages of the artificial queen-rearing methods lie principally in the fact that you can rear an unlimited number of good queens from your best colonies.

One more thing must be guarded against, and this is "in-and-in" breeding. Consanguinity is fatal. That is why, in the human race, marriage between closely-related persons is frowned upon. That is why the queen is directed by her instinct to seek her mate in the fields, on the wing. That is also why our fruit-blossoms need the agency of insects to fertilize them from the pollen of other blossoms. Consanguinity must be avoided. We should rear our queens and the bulk of our drones from different mothers. From time to time we should exchange breeders with other bee-keepers, equally as careful as ourselves in the selection of the race.

If the above conditions are carefully fulfilled, it seems to me that we will be sure to retain, and even increase, the vitality of our honey-bees.

Hamilton, Ill.

What About Laying Workers?

BY G. M. DOOLITTLE.

A correspondent wishes me to tell him through the columns of the American Bee Journal what I do with laying workers.

In the first place, allow me to say

that it is better not to have such, in which case there is nothing to do with a thing you do not have. But how can laying workers be avoided? As they come about through a colony being hopelessly queenless for a longer or shorter period, if we see to it that no colony is allowed to become thus queenless, we will never have such a thing as laying workers. I have not had a laying worker in either of my apiaries during the past 10 years, and if colonies, where a change of queens is likely to occur, are properly looked after at about the time the new queen should have eggs and larvæ, there is seldom need of ever having a laying worker during a bee-keeper's lifetime.

But what does "properly looked after" mean? An outside diagnosis will generally reveal whether the new queen is there, has begun to lay, and is a good one, by the "vim" of the bees going to and from the entrance. If they are hustling out, and going in rapidly with water and pollen, together with honey; if the flowers are yielding nectar from two days to a week after the queen is expected to start her "brood-nest," then it is safe to conclude that all is well, without opening the hive for the examination. However, if the bees appear more sluggish in flight, congregate about the entrance of the hive in a sort of listless way, with none carrying water, and few carrying pollen, then we must open the hive, which will generally result in finding no brood, but instead a hopeless, queenless colony, the outcome of which will generally be laying workers, unless such colony is immediately looked after by giving it a frame or two of brood from other colonies. Upon giving this brood, one frame of which should have eggs and small larvæ, it is best to wait 3 days before trying to give them a queen, for there is a possibility that the colony may have a deformed queen, in which case any queen given would be killed, as the bees will, in nearly all cases, hold to a queen which can not fly out to mate, rather than accept the best queen the apiarist can give them.

When opening the hive 3 days later, if queen-cells are found with royal jelly and larvæ in them, you may know that they are queenless, and proceed to give them a queen at once. But if none are found, which will be the exception rather than the rule, then you must hunt out that which they are holding to as a queen and dispose of her before such a colony will accept the one you attempt to give them.

By diagnosing and looking over the apiary once every two weeks in this way during the breeding season, one will very rarely be annoyed with laying workers.

But, suppose I have been negligent in these matters, and already have laying workers, what then? As a rule, colonies left long enough queenless so that some of the workers are fed chyle, and take on the part of motherhood for the colony, such a colony will have become so reduced in bees, and those remaining become so old, with their vitality much reduced, that it is better to break up the colony, or unite the bees with some weaker colony, which uniting will generally incite the queen of such weak colony to more prolific brood-rearing, which, in this way, will help the weak colony to go into winter with a larger number of young bees, which gives a little profit from the colony having the laying workers.

But suppose that I wish all the colonies possible—is there no way of saving such a colony? Yes, many plans have been given, some of which work quite well. If the colony has not been queenless too long, so that there is quite a large cluster of bees with a prospect of many of these living 4 or 5 weeks, put 2 worker-combs in an empty hive, and with them one of honey. Set the colony having the laying workers from its stand, and after having placed a laying queen in an introducing cage between the comb of honey and the one next to it, put the hive having the 3 combs where the colony stood, closing it up. It is best to do this in the middle of any day when the bees are flying freely, so that enough bees will go into this hive to look after the queen properly before night comes on.

Having this prepared hive on the stand the laying worker colony occupied, place that colony about one foot away from its old stand, with the entrance back about one foot to 18 inches. Leave them thus from 3 to 5 days, when you will find the queen in the 3-frame hive out and laying, with nearly all the bees with her, as nearly all the field-bees will leave the original laying-worker hive, and, returning, will enter the hive containing the 3 combs and caged queen.

After the queen has been laying long enough so that larvæ are hatched, the combs can be set from the laying-worker hive in that containing the queen, leaving out the 3 having the most drone-brood (from the laying workers) in them when the work is done, and a fairly good colony will be the result, if the bees were not too nearly worn out before you commenced with them.

But suppose the bees were well worn, and I want to save the colony—what then? The colony can be saved even then, but it is a question of quite a little work, and the weakening of other colonies. The first thing you will want is a good queen in an introducing cage. Set the colony with the laying workers off as before, and on its stand place an empty hive with the caged queen. Now go to any colony which can spare them and get 2 combs of brood with all the adhering bees, being sure that you do not get the queen, setting these combs in the empty hive. Now go to another colony and get 2 more combs of bees and brood from that, placing them beside the other 2, and placing the caged queen between the 2 combs last brought and those already in the hive. If you still have another colony which can spare 2 combs of brood, get these, with their adhering bees, putting one of these on either side of the 4 already in, when the hive is to be closed.

If this work is done in the middle of the forenoon, the most of the bees from the laying-worker colony will be over with the queen and brood by night, so that there will be no loss of brood by the older bees (brought with the combs of brood) returning home. The next day take 2 combs from the laying-worker colony to each hive sparing the combs of brood the day before, putting them in there so as to give each the full complement of combs again, when those remaining are to go in with the the new colony formed on the laying-worker stand, which completes the job, as soon as the queen is liberated and found laying. If you can give the 6 combs of bees and brood, this colony will be as good as any for winter, but it will be seen that it is done by making other colonies less prosperous.

Borodino, N. Y.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Spraying During Fruit-Bloom—Honey a Clean Food—Banat Bees

1. Is there any law to prohibit spraying during fruit-bloom in Pennsylvania?

2. Is, or is not, honey a clean food? Some of my neighbors claim it is not fit to eat, as bees work on all rubbage and around closets.

3. Is the Banat bee a new race of bees brought from some other country, or is it just a cross with some of our native bees?

PENNSYLVANIA.

ANSWERS.—1. I think not.

2. In the rare cases when bees work on garbage, it is to carry it to the brood apartment for the brood. None of it goes into the surplus honey, which comes from the flowers, and so is the cleanest kind of food.

3. They are counted a separate race.

Bees Wintered Outdoors

1. I winter my bees on the summer stands, and have the inside of the super covered with burlap, also a roof over them. The hives face the south. The bees come out every day and die or freeze outside of the entrance. We have snow and cold weather here. What is the cause?

2. Should the hives have ventilation on top of the frames?

3. Do bees sweat if covered too warm?

PENNSYLVANIA.

ANSWERS.—1. It is possible that something is wrong with the food, causing dysentery. It is also possible that there is nothing seriously wrong. Bees are dying off more or less all the time in winter, and the mortality may not be excessive. It may be that the bees are enticed out by the bright sun shining in at the entrance, and if snow is on the ground they may sink into it, never to rise again. Some think it advisable to put a board or something of the kind in front of the entrance, so as to darken it. Yet when a day comes warm enough for bees to fly freely, the board should be removed for that day.

2. Hardly ventilation; yet there should be a passage over the frames so the bees can get from one comb to another.

3. They are more likely to sweat when too cold, if you may call it sweat. Moisture is coming from the bees all the time, and if the walls of the hive are cold, the condensed

moisture settles upon them, and may run down and out of the entrance, and this is sometimes called sweating. The worst of it is when the moisture collects overhead and drops down upon the cluster. Covering up warm helps to prevent this.

Cellar-Wintering of Bees

1. I have 35 colonies of bees in the bee-cellar, which is under the barn. The cellar is 12 by 16 feet, and 7 feet high. The temperature of the cellar is 37 degrees, Fahr., all the time, and the bees seem to be dying off very fast. The cellar is very dry and well ventilated. The hives are all 10-frame hives, 10 of them being Woodman chaff-hives, and 25 of them are hives I made myself, and are not single-walled hives. I gave all colonies full width by ⅜ of an inch entrance, and covers on all the single-walled hives The hives are slid to the front about 1-16 of an inch or so to let out the moisture from the bees. Nearly all the hives are dry at the entrance, only a few seeming to be damp at the entrance, but not much. All the hives slope to the front quite a little—2 inches. All the colonies have plenty of honey. Do you think it best to give more ventilation at the top by sliding the covers more to the front? Or do you think it would be a good plan to put on the supers filled with chaff, and then the covers on the super?

2. I did not put my bees in the cellar until Dec. 1st, and they did not have a flight for a month, although the bees seem to be quiet. Does it do any harm to disturb the bees in the winter in changing them, or entering the cellar? Would you think best to give them a smaller entrance, such as they had in the fall? SUBSCRIBER.

ANSWER.—If your thermometer is reliable, your cellar is too cold by about 7 degrees for good wintering. Then that month outdoors without any flight before they were taken in was bad. In so cold a place you are not likely to improve matters by sliding the covers more to the front. The packed supers might be better. Possibly less ventilation will be better, for in so cold a cellar it is a good deal the same as being outdoors. Going into the cellar is not likely to disturb the bees, but doing anything to jar the hives would.

Queens and Workers Destroy Queen Cells

1. When a colony is queenless, and there are queen-cells, then one queen hatches, do the bees, or the first queen hatched, destroy the other queen-cells? SUBSCRIBER.

ANSWER.—Both engage in the gruesome business.

Miller and Heddon Feeders

1. What is the difference between the Miller feeder and the old Heddon feeder? Some seem to think that they are one and the same thing? SUBSCRIBER.

ANSWER.—The Heddon feeder uses much the same principle as the Simplicity feeder, a series of thin pieces allowing the bees access to all parts of the feed. In the Miller feeder no bee can get into the main part or parts of the feeder, and the feeder may be opened, and sugar, water, or syrup poured in without any bees being in the way.

Rearing Queens for Requeening

I have been in the bee-business for 7 years, and have had pretty good success, but I have never tried to rear any queens. I have studied up the business quite a good deal and think I can succeed. I have been studying the Alley and Doolittle methods, and think I can take the Doolittle method and improve on Alley's, but I thought I would write to you for your opinion first.

Why couldn't I take a piece of comb containing eggs, or larvæ, destroy every other cell, cut down the cells to about ¼ inch, take my manufactured queen-cells open at both ends, slip down over these cells containing eggs or larvæ, first dipping one end of the queen-cell in melted wax to make it adhere to the septum, or base, and then give it to a queenless colony? I think it would be better and more easily done than transferring the eggs or larvæ. If you think this a pretty good plan, and that it will work all right, please tell me so. I expect to buy two or three Italian queens next May or June, and requeen my apiary from them in this manner, if you think it will work all right. ILLINSIS.

ANSWER.—If you empty every alternate cell you will probably find that you will not have room enough for any manufactured cells, although you might have room enough by destroying 2 cells and retaining every third cell. But it is hard to see what you will gain over the regular Alley plan unless you think it will make the cells stand rougher handling.

Winter Hive-Entrance

1. I have 8-frame hives and use an entrance ⅜ by 6 inches. Is that enough for a winter entrance? Explain this question throughly, as it is one that usually bothers me. WEST VIRGINIA.

ANSWER.—Yes, for outdoor wintering 6x⅜ is considered an entrance large enough for a strong colony. In the cellar you can hardly have too large an entrance. My bees have an entrance the full width of the hive and 2 inches deep.

Rearing and Mating Queens

1. What is the best plan to rear queens by the wholesale?

2. Do you mate your queens in baby nuclei? GEORGIA.

ANSWERS.—1. Hard to tell; but likely nothing is better than the plan Doolittle gives in his book on queen-rearing.

2. I did for a time, but now prefer to have them mated in a 2-frame nucleus or something larger. But if I were rearing queens to sell it is possible I might do differently

Oilcloth Over Frames in Cellar

My bees are in the cellar, and the oilcloth has not been removed from the frames. Would I better remove it now? I do not know that the bees can get around the ends of the frames, which are 1½ inches from the bottom-board, and the hive is raised one inch. NEW YORK.

ANSWER.—There is danger that moisture will condense upon the oilcloth and fall in drops upon the cluster of bees. The colder the cellar the more the danger. If you can remove the oilcloth without disturbing the bees much, it would be well.

Natural Swarming or Dividing?

1. Which is the better, natural swarming or dividing?

2. Which is the easiest way to make swarms by dividing, or a couple of ways?

3. At what time of the year do you think is the best to do it? NEW YORK.

ANSWERS.—Whether the swarm made by dividing is as good as a natural swarm depends upon how the natural swarm is made. It may be made weaker than a natural swarm, and it may be made stronger. There are, however, advantages in dividing such that experienced beekeepers generally prefer it to natural swarming.

2. Perhaps the easiest way is to take from a strong colony half the brood and bees, put them in an empty hive, and fill up each hive with frames of comb foundation. But the easiest way is far from the best way. Here's a better way: Find the queen; put her with 2 or 3 frames of brood and adhering bees into an empty hive on a new stand, filling both hives with frames of foundation or drawn-out combs. About 8 days later let the 2 hives swap places, and the bees will do the rest. In this way you are likely to have an excellent young queen, whereas by the easier way, first mentioned, you might have a poor one.

3. Take the swarm about the time bees begin to swarm naturally. If you can not tell easily when that is, wait till white cover is in bloom in your locality, and wait longer still if the colony to be operated on is not already strong.

Mustard and Smartweed

Do you consider mustard a good honey yielder? If so, how does it compare with smartweed in the yield of honey and quality? ILLINOIS.

ANSWER.—Mustard is a good honey-plant. Just how it compares in yield and quality with smartweed (by which you probably mean heartsease) could be better told by some one having an equal acreage of considerable extent of each. In Europe rape, which belongs to the same family as mustard, is a honey-plant of very great importance. It is possible that mustard would be equally important if it were cultivated to the same extent. As to quality, Root's "A B C and X Y Z of Bee Culture" says: "The honey from these plants is said to be very light, equal to any in flavor, and to command the highest price in the market."

When Queen Begins Laying—Difference in Color of Bees

1. How soon will a queen begin to lay in the State of Illinois?

2. Please illustrate how to tell the difference in Italian bees in regard to bands, golden and red clover Italians, etc? ILLINOIS.

ANSWER.—1. If wintered in the cellar she may not begin to lay until taken out in the spring, and she may begin to lay some time in March while still in the cellar. She will begin laying earlier if wintered outdoors; possibly in February, or even in January, especially in the southern part of the State.

2. As introduced from Italy, Italian workers have 3 yellow bands, the first band of the abdomen not being so large and distinct as the two following. American breeders have increased these bands to 5, when they are called "goldens." Red clover bees are those which work more than others on red clover, whether they have 3 bands or more, or no bands at all.

Getting Pollen in the Hive—Foul Brood Treatment

1. How can we get pollen in the hive? The colonies were put on full combs of honey and no pollen. Bees start breeding here in February. The object is to get pollen in the hive without the bees leaving the hive, if such a thing is possible.

2. You have written several plans for curing foul brood. Now if half of your colonies were diseased next spring, what treatment would you choose? INDIANA.

ANSWERS.—When bees begin breeding in February there is no need, under normal conditions, for you to do anything about furnishing pollen to them, for they always lay up a store of pollen as well as honey, and if either runs out it will be the honey and not the pollen. Generally pollen is to be had in greater plenty than honey early in the year. So there is no need to pay any attention to the matter of pollen, but keep close watch that there is plenty of honey. It is possible that you might form a colony rather late in the season, giving them combs of honey without any pollen, when it would be too late for them to gather any pollen. In that case you must see to it that some of the combs contain pollen or your colony is likely to be a failure the following spring.

2. If they had American foul brood, I would use the McEvoy plan. If it was European, I would wait till perhaps the beginning of clover harvest, and first see that each colony to be treated was made strong by uniting or by giving frames of brood well advanced. Then I would remove the queen and give to the colony a ripe queen-cell or a virgin queen of best stock.

Double-Walled Hives—Feeding Bees in Winter

1. I have 4 double-walled 10-frame hives, space ¾ inch between walls, filled with paper. Each colony had from 8 to 12 pounds of stores in the fall. What do you think of double-walled hives?

2. Some say that syrup fed in winter sours in the comb, and being uncapped gives the bees dysentery. What is your opinion and experience in this?

3. What shall I feed this winter? Can syrup be fed, or should I feed sugar candy? INDIANA.

ANSWERS.—1. Double-walled hives are good, but I think they are hardly as popular as they were some years ago. They are cumbersome and expensive.

2. I have had no experience, as I never fed syrup in winter. But it is generally agreed that unsealed stores are not so good as sealed in winter.

3. I would rather feed syrup in winter than to let bees starve, but it is probably about twice as safe to feed candy as to feed syrup.

Very Likely Foul Brood

Sept. 2, in a certain hive which had much brood in 4 Langstroth frames, I found that some larvæ had a yellowish color, and that some sealed brood had the cappings bulging out further than usual. In the cappings of some cells there was an opening large enough to see the pupæ inside. These pupæ were in a rather advanced stage of development, had a pink color, and on being pierced with a match were watery and not at all viscid. In a few cells the larvæ had dried, become hard and brown, and were easily removed from the cells with a match. The colony is sufficiently strong, I think, and is wintering outdoors. What is the trouble, and what should be done? INDIANA.

ANSWER.—I'm afraid your bees have foul brood. No matter what the trouble, there is probably nothing to be done about it just now. Wait till the diseased brood appears next spring, and then send a sample to Dr. E. F. Phillips, Dept. of Agriculture, Washington, D. C. He will tell you what the trouble is, and then you can tell what the treatment should be. This will cost you nothing, and if you write in advance Dr. Phillips will send you a tin box with frank, in which you can send the sample.

Color of Carniolan Bees

Describe the color of the Carniolan bee. Some say in Japan that this kind of bee has yellow bands, and others say there are none of yellow color, but that they are all gray. I don't know what the color of the pure Carniolan bee is. Is the hybrid of yellow color? JAPAN.

ANSWER.—I think you would not recognize any yellow in Carniolans. They have very distinct rings on the abdomen, but these rings are not yellow, but whitish. They look much more like blacks than Italians, but have the credit of being a little larger than blacks.

When the word "hybrid" is used concerning bees, it generally means a cross between blacks and Italians, and such hybrids may have 1, 2, or even 3 yellow bands similar to the yellow bands of Italian, but if only part of the workers have the 3 bands, then the colony is considered hybrid. I suppose the word "hybrid" might also apply to a cross between Italians and Carniolans, or between any two different varieties.

Keeping Down the Increase

1. I have 13 colonies in Danzenbaker hives, and have kept bees only as an avocation, but want to keep them in the best possible manner. I do not care to increase the number. How would this plan work?

About the time the colony would swarm naturally, set a new hive containing empty combs or full sheets of foundation on an old stand, then shake all, or nearly all, the bees out of the old hive in front of the new. Put super on newly made colony, then at various times, say every week, shake its old bees off the frames in the old hive; of course, at the third shaking all the bees would be changed to the new hive. The old hive could be carried off, saving what honey it contained for feeding, or for using a year hence for the same purpose. OHIO.

ANSWER.—The plan you propose has been used with more or less variation, and succeeds. It is, indeed, only a variation of shake-swarming, which is in pretty general use. If you work for extracted honey, you will find the Demaree plan more satisfactory, and much less trouble. By the Demaree plan, instead of taking away the brood, put it in a second story over an excluder, having the first story filled with foundation and containing the queen.

Moldy Combs in Hive—False Hive-Bottom—Colony Management

Our main honey-flow is white clover and buckwheat. Red clover is beginning to yield some nectar also. I write this so you will know the conditions here, and what time our honey-flow may be expected.

1. What can be done with a colony that has moldy combs when the whole entrance is open? I bored 2 holes, one on each side of the back part of the cover about ½ inch in diameter, then tacked some screen-wire over the holes, then I placed a telescope cover (of my own make) over it, and packed around it dry moss. Will it work? The bees are in a good shed. They were dying off before I gave them the top ventilation. Now they seem to be doing fine.

2. When the combs of honey of a colony mold for lack of ventilation, does the honey sour?

3. I would like to use a false bottom-board to help prevent swarming. Would one made of screen-wire and wood be of any profit?

4. I introduced young queens the past fall. Can I get the required number of bees desired, by waiting until the queen has the brood-chamber full of eggs and brood, then lift it above an empty hive-body of full sheets of foundation, confining the queen below by using a queen-excluder? Will the bees build queen-cells above? and will they carry the honey and pollen below? WEST VIRGINIA.

ANSWERS.—1. "The proof of the pudding is the eating of it." If your bees are doing well since you made the change, that is pretty good proof that it is all right. Of course there must not be too much ventilation, lest the bees be too cold, but ventilation in some form must be sufficient to prevent dampness and mold.

2. Maybe, and maybe not; but too little ventilation tends to dampness, dampness tends to thinning the honey, and thin honey is more likely to sour.

3. Yes, anything that will prevent the bees from building down and at the same time will allow plenty of air below the bottom-bars will answer the purpose. A set of strips with spaces between them, nailed on two long pieces in the form of a ladder works well.

4. You can not be always sure that the bees will start cells above an excluder. But if the cells are started, they will be pretty sure to continue them. If you remove the queen for about 2 days, cells will be started, and then you can go on with your plan. But if you leave the brood until young queens hatch out there may be swarming. You can forestall that by removing the upper story 10 days after the cells are started. The bees will not carry the honey and pollen below.

Feeding Bees in Box-Hives—Foul Brood

1. I bought a quantity of bees in old log gums, or box-hives. The combs are built to the walls of the hives, on the same plan as in the old bee-trees, and I think at this date they should be fed, as I see empty combs when the cover is on. It is my plan to carry them through this winter, and then transfer to modern hives.

2. Is foul brood ever found where there is no manipulation of bees? TENNESSEE.

ANSWERS.—1. I'm not certain what your question is. If you mean to ask whether the bees need feeding, I should say that the chances were good for bees in that sort of hives, for there is less danger that anything has been taken from the brood-chamber than with movable combs. Still, they might be short, and your question may be as to how to feed them. You can put pieces of sealed honey over them, covering up warm. If you haven't the honey, you can use cakes of candy.

2. Yes, indeed. Manipulation can not produce the disease, and the right kind of manipulation does not necessarily favor its increase; but the wrong kind does; as when a comb is taken from a diseased colony and given to a healthy one. I don't mean that giving a frame of brood from one colony to another is wrong manipulation in all cases, but it is wrong where the brood is taken from a diseased colony.

Cleaning Extracting Combs—Hiving Swarms—Wiring Shallow Frames—Double-Walled Hives

1. In taking a frame of brood from a strong colony to give to a weaker one, is it best to brush the bees off, or give the weaker one bees and brood both?

2. How do you clean extracting combs when you do not wish to give them to the bees to clean?

3. What number of bee-keepers would you estimate there are in the United States who keep bees for a living?

4. Suppose a box with a small entrance hole in one end, was put on the end of a pole and shoved up against a swarm

which had clustered in a difficult place to reach, do you think the bees would enter the box?

5. I want to have some honey gathered in shallow extracting frames filled with extra-thin foundation. The best I want to sell as comb honey and the balance I would like to extract. Will the above comb be strong enough to be put through an extractor without breaking?

6. Is it necessary to wire shallow extracting frames when medium brood foundation is used?

7. Which is best in a double-walled hive, a dead air space or planer shavings packing? OHIO.

ANSWERS.—1. Unless there be some special reason to the contrary, it is better to take with the brood the adhering bees. It strengthens the weak colony more, and, besides, there is danger sometimes that when additional brood is given without additional bees, a cold spell may happen, chilling some of the brood. Of course care must be taken not to take the queen from the strong colony. Judgment must be used not to give to a weak colony at once too great a proportion of strange bees. If to a weakling with brood in 3 frames there be given from a strong colony 2 frames of brood with adhering bees, the queen of the weak colony might be in danger. The danger would be less if the 2 frames given were from 2 different colonies, or if the 2 frames from the same colony were given a day or two apart. The safest way is to give queenless bees, for queenless bees are not likely to attack the queen of any colony to which they are given. It will be safe to give several frames of queenless bees from the same colony if that colony has been queenless 2 or 3 days.

2. I don't know of any way.

3. Now you're bearing down pretty hard on me. I wish I knew. I don't. If you insist upon a guess, I should say somewhere from 75 to 200. That is meant to include those who depend upon bees alone. Of those who make at least half their living from bees there may be 5 times as many. I know it's a rather reckless thing to make even a guess in such a matter, and I shall be delighted if some one would call me down and give a reliable answer instead of guesses.

4. They would be quite likely to enter. The matter would be made a little surer If a piece of brood-comb were in the box, the older the better, and all the better with some brood in it. It might merely lie on the floor of the box. You say a "small" hole. Not too small. On a hot day that might be too close for the bees to remain.

5. I feel pretty safe to say no, although I never tried anything of the kind.

6. Hardly, especially if care be taken at the first extracting, emptying one side only partly, reversing and extracting the other side, and again reversing to empty the first side.

7. It is generally considered better to have packing in the space. Theoretically, air might be thought a better non-conductor than shavings, and so it is if the air would remain still; but the trouble is that it will not remain still, but when a part of it becomes warm, at the warmest part it travels to a cooler part to give up its heat there. The packing stops it from traveling so much.

REPORTS AND EXPERIENCES

Report for Season of 1910

One colony of leathered-colored Italian bees gave me 160 sections of fine honey. I took something over 400 pounds of honey from 5 colonies, spring count. I now have 10 colonies, having sold 2 during the past summer.

I can't get along without the American Bee Journal. (REV.) EDGAR REED.

Bethany, Mo., Dec. 14.

A Discouraging Report

We have not had a honey-flow here worth mentioning since June, 1909, consquently the bee business is rather discouraging. The outlook is poor for another season, and 90 per cent of the bees in this part of the country are dead. However, I am going to try to hang on a little while longer.

EDWARD BLACKSTONE.

Cumberland, Ohio, Dec. 26.

A Stinking Bee-Pest—Skunks

Last fall I discovered that something had been molesting 3 or 4 of my colonies at night, and one colony more than the others. I found about a quart of bees with the queen hanging under the hive, and they seemed to be cross. I could see marks about the hive as though claws had been used, and I made up my mind it was the skunk that was molesting them. So I set a steel trap at the entrance of the hive, and the second night I had set it I went to the apiary and found one caught by the front legs. It was dead and swollen up, and some of the bees were still stinging it.

The next night, at the same hive was another one caught by the hind leg. The bees had left it for me to kill. I began thinking how to get rid of it without having the odor in the bee-yard, and it came to my mind what I had read some years ago in "Josh Billings." He said the reason a skunk was called *pole* cat, was because the best thing to kill it with is a 15-foot pole. I kept just such a pole about the bee-yard, so I took it and pulled the stick out of the ground to which the trap was fastened, hooked the end of the pole to the chain, and led it out of the yard and let it walk off some distance, then I gave it a god lick over the head with the pole and fled to a safe distance. No more have troubled me since. J. G. CREIGHTON.

Harrison, Ohio.

Gathering from Different Bloom

Color of bloom seems to make little difference. In passing through my bee-yard this spring, I noticed pepper-grass had come up where red clover stood thickly the previous season, and grew very rank and tall. I let the pepper-grass grow, as the bees are fond of the little white blossom, and dandelions also came on very thickly. The dandelion stems grew very tall to get to the light, and when the pepper-grass was in full bloom, the dandelions were also, and such a pretty sight. I waded out into the mass, and the first bee I saw was sipping the pepper-grass with great balls of golden pollen on her legs.

In watching the bees that morning, I saw many rise up off the dandelion and finish up with a load of nectar from the pepper-grass, but I did not see a single bee go from the pepper-grass to the dandelion. They all seemed to load up their baskets first, and then finish on the flower of altogether a different color. For fully one-half hour the patch seemed to be alive with bees, but it being a hot, sultry morning, a shower put a stop to the feast.

C. B. PALMER.

Bradshaw, Neb., Dec. 2.

Season Too Dry for Honey

My bees did not get much honey the past season, as it was too dry here, and I lost most of them last winter after the snow went away. I have 4 colonies left out of 16 that I had a year ago.

OTTO BURKHART.

Missouri Valley, Iowa, Dec. 22.

Unusually Severe Winter

We are having an unusually severe winter. Snow came Nov. 5, and we have had nearly or quite 3 feet up to the present time. The bees had to go into the cellar with the hives more or less covered with snow, so that the prospects of good wintering are not entirely satisfactory. During this month the mercury has hovered about the zero mark much of the time.. G. M. DOOLITTLE.

Borodino, N. Y., Dec. 21.

Results of the Season of 1910

I had 18 colonies in the summer of 1909, and almost all of them had foul brood. I reduced to 16 colonies and cured them before putting them into winter quarters. They wintered successfully, and all were alive and in fine shape in the spring of 1910. I got 1000 pounds of section honey, and 500 pounds of extracted. The section honey retailed at 20 cents a pound, and wholesaled at 16 cents; and the extracted at 60 cents a quart, or 30 cents a pint; one pound jar a 25 cents. Almost all of it is sold. I increased 12 colonies by dividing in 1910. I am now wintering 28 colonies.

Elgin, Ill., Dec. 28. JOHN REICHERT.

Honey Crop Report for 1910

I had a good crop of honey the past season. I started in the spring with 66 strong and 18 weak colonies. My bees began swarming May 17, and I put them back, giving them full sheets of foundation, taking the brood and some of the young bees to build up weak colonies, so I had them all in pretty good shape when the clover bloomed. I secured 5 tons of light honey (clover and basswood), and 1700 pounds of buckwheat. I sold the entire crop for $1035.00. It was all extracted with the exception of about 300 sections. By bees went into winter quarters in fine shape, and I had but very little feeding to do. I put 59 colonies into the cellar, and 48 packed in sawdust outside. I think we have the best plan for outdoor wintering there is.

A. M. BRIDGE.

Frontenac, Co., Ont., Dec. 26.

Foul Brood—Use of Honey

There was an interesting meeting of bee-men at Falmouth, Ky., Dec. 5, 1910. Mr. E. D. Sipple, our county bee inspector, was there and reported his work so far. He received his appointment late in the summer, and was able to work only 28 days when cold weather stopped him. In this time he inspected 1214 colonies, finding 48 having foul brood, besides 148 all diseased, making 1362 colonies inspected. He will resume the good work next spring, when, with the co-operation of our bee-keepers, he hopes to clean up all the foul brood in our county. Another meeting is called for the first Monday in June.

I sent 2 items from the American Bee Journal to our county papers—the kidney cure and the case of rheumatism. A few days ago I met a lady who saw the items, and she said she was eating honey every meal, hoping for happy results.

I would suggest that bee--men might do others good by such use of the American Bee Journal and help the sale of honey very much, also.

T. M. Barton.

Butler, Ky., Dec. 13.

The Bee's Use of Propolis

I wonder if it ever occurred to the learned writers on bee-culture that the habit bees have of filling every crack and crevice with propolis (or bee-glue, as it is commonly called) is simply the fulfilling of one of the first laws of Nature—self-preservation. The bee-moth or miller being eternally on the lookout for some place to deposit their eggs, will place them under the edge of the cover or other crack, where they hatch, and, while yet small and unobserved by the bees, make their way into the hive, and, unless discovered by some watchful bee, are soon protected by a web of armor, and start on their tour of destruction.

The little bee, guided by instinct, looks with suspicion on all cracks it cannot freely travel through and investigate, and knows of no better way to guard against its common foe than to keep all such cracks filled with glue. This glue is practically proof against the moth-worm.

You will have little trouble with bee-glue if you will make all cracks either large enough for the bees to pass through freely or so small as to seem solid; at least that has been my experience in this locality.

I aslo wonder why the "A B C & X Y Z of Bee Culture" places the worker-bee in the masculine gender.

Rocky Ford, Colo. A. S. Parson.

The Art of Selling Things

I am quite interested in Mr. Wesley Foster's salesmanship articles. I was pressed into service as a salesman at the age of 10. To get some money of my own, I picked up beechnuts in Northern Michigan and sold them by the quart, also wild blackberries. Then later on at a 4-year term in the city of selling vegetables and fruits, I learned to study my customer. When I met a careworn face, I used the "negative" salute, as "You don't want to buy." It aroused a little combativeness and started an investigation, and then with a cheerful countenance,—"Come and look at my goods!"

One time a man was carrying goods from a house back from the road. I asked, "Does your family eat onions?" "Yes." "Need any?" "Guess not today." But I noticed out of the corner of my eye after I started on, that he was taking short steps. I stopped. "Come and look at them!" He said, "Say, those *are* large!—But I have nothing to carry them in." There was the old basket I brought on purpose. Sale.

I went to the door of a fine house in the country, and rapped. The door opened about 6 inches. "Use onions?" "Yes; *too early to buy*," his teeth grinding on a piece of meat while trying to talk. "Don't need to pay for them if they rot." Come and look at them. "Nice location here for peaches—nice enough for anything." "Two bushels—here is your dollar."

I offered an old cow with one lower front tooth gone, for $17.00 The customer hitched his team to the covered buggy, and he and his family drove 23 miles to visit the wife's folks a week, but left me crying to sell. I started out one morning to where a cow was wanted I met the man coming, but did not tell him my business. We talked one hour, and the cow came and visited us. I petted her. "When will she 'come in?'" "Won't 'come in.'" "Glad to see you're honest." "Price?" "$22.00 or $23.00." "Here is $22.00."

I offered another cow for $30.00, but no sale for two weeks. Siners wanted a cow. "Price?" *Thirty-five whole dollars*, sir." Sale.

When I came to Idaho, they told me I couldn't "work" people here that way. I bought a "coyote" for $10. She did not fill the bill, so I offered her for a $4.00 watch, but the fellow wanted $2.50 to boot. Then I got all kinds of cheap offers. I finally got 2 coyotes for mine sold one for $7.00, and the other which filled the bill cost me $3.00.

The first requisite is a demand; the next is to have goods you are in no way ashamed to offer; then comes gentlemanly sociability; and last but not least, a wonderful store of enthusiasm, that is given vent in a logical manner.

A good salesman after ten hours duty is tired enough to sleep well. But it is *fun* to sell honey. It is so sweet. I get 16 2-3 cents for extracted and 20 cents for comb. Sold out.

Fraser, Idaho. F. F. George.

Rearing Queens from Best Colonies

I have just been reading page 342 (1910)—"What about the Long-tongued bees?"—and were it not for the fact that my Moore queen has given such surprising results the past season, I probably would express myself as having little confidence in the matter of any particular strain of bees possessing that qualification.

However, notwithstanding the fact that I sometimes order a queen to facilitate keeping up my stock of bees, I believe greatly in my ability to do a great deal along that line by breeding from my better colonies. I take particular notice of all my colonies that make the best record as honey-gatherers, and am careful to rear queens from these particular colonies. I am quite sure that I have gotten good results in this way, and am equally as sure that a goodly number of queens ordered from those who have made a business of rearing and shipping queens have proven absolutely worthless.

Redlands, Cal. C. L. Grigsby.

Foul Brood Law for Kentucky

I would like to know how many bee-keepers there are in this State, and what they think about trying to get a foul brood law, so we could have an inspector in Kentucky. If they think it advisable, every one should work to that end. All the States that produce much honey, or most of them at least, have a foul brood law, and have an inspector to protect them from the ravages of the dreaded disease. I do not know that the disease has done any damage in this State, but we can not tell how soon it may. I think I am the only one in this State who writes to the American Bee Journal, for I don't see very many letters from Kentucky.

Being an amateur in the business, I feel a little backward about writing, but when I look over the pages of the "Old Reliable" and see the experiences of others, I feel like placing mine in line, too. I will give a plan I tried this fall for curing foul brood. I was away from home most of the summer, so when I came home for the fall crop, I found a colony with foul brood. I did not have time to doctor them, but I had a weak colony so I doubled them up the last of August. Nov. 18 I took 8 of the combs from a healthy colony filled and sealed, except 2, with a small patch of unsealed honey. I placed these 8 frames in a new hive, then moved the diseased colony back and put the new one on the old stand. I took out the frames and shook all the bees in front of the new hive. As it was not very warm that day, I did not run much risk of spreading the disease, for there were very few bees flying from the other hives.

I can not tell how this plan would work, but I can't see why it would not get rid of the disease, as the little honey the bees take into the new hive will be very quickly used up, and so no chance to infect the new combs. I will report in the spring how they wintered, and how this plan works. It will make things easier, for where there are two or more diseased colonies, they can be doubled up before brood-rearing stops, and then at the last work for the winter they can be put on new combs, the old combs melted up, and the hive burnt out or up, as one likes. I would like to hear what the older heads think of this plan of destroying both kinds of foul brood. I think it is all right when you discover the disease too late to doctor it by the other plans—McEvoy or Alexander way.

L. S. Dickson.

Princeton, Ky., Dec. 24.

Spring Strengthening of Weak Colonies

Spring is not near yet, but will arrive again some time in the future when every bee-keeper will get busy to have every colony in the apiary as strong as possible; and to obtain these requirements the apiarist must assist some colonies that are weak in bees. No matter how careful the apiarist is, there are always some weaklings in an apiary in the spring. The majority of bee-keepers strengthen their weak colonies by giving frames of sealed brood, which has nearly reached the emerging stage, while others take a few frames of bees that are from strong colonies and are shaken at the entrance of the weakling; but I have found some serious objections in strengthening colonies in that way.

Strong colonies usually have their frames filled with brood from one end-bar to the other, while a weak colony has brood in 3 or 4 frames in the egg form. By inserting a frame that is filled with brood the bees are forced to spread out, then, if the weather gets cool, the bees are handicapped, consequently lots of chilled brood and the colony will be as weak as ever. When shaking some bees from the strong colonies at the entrance of the weakling there is always a possibility that we shake the queen of the strong on the entrance of the weakling, which is usually among the best queens in the apiary.

Taking all in all, I have never had much confidence in that management, so I have experimented until I have succeeded in finding a way whereby I can accomplish every requirement necessary to bring my weak colonies to super-work at the opening of the honey-flow. I will say at the very beginning, do not attempt to try my way before there is an abundance of young bees in a strong colony to maintain the right temperature and care of the brood, because the method will be worse than worthless if it is applied too early in the spring. We approach in the following manner:

When you see that there are young bees galore in the strong colony, which usually is about a month before the honey-flow, then simply exchange places, or in other words, move the weakling to the stand that was occupied by the strong, and the strong colony to the stand of the weak. The weakling will get the field-force of the strong colony, consequently, strengthening the weakling. We also in that way make use of those old, cranky bees that otherwise would devote their time to stinging and robbing.

Some might imagine that the queens of the weak colonies will be killed, but no, not so. I have never had a queen balled or killed since I tried this practical way, and I have tried it on weaklings where there were only bees enough to cover one Langstroth frame. The bees from the strong colony that enter the hive of the weakling will at once recognize that it isn't their original home, and will run and fly about the hive for a while, and consequently will be glad to join the weakling.

Now I will again repeat, do not try to strengthen weak colonies before there is an abundance of young bees in the strong colonies (and not one day sooner); that is the secret of success. You will see that all the field-bees will leave the strong colony, and if there are no young bees the brood will be starved and chilled. Alfred L. Hartl.

Elmendorf, Texas.

Is the Queen's Drone Progeny Affected by Her Mating?

Some time ago I wrote some articles which appeared in the October, 1907, and the February, 1908, issues of the American Bee Journal, in which I combated the generally received theory that a queen's drone progeny are unaffected by her mating; and also gave my experience and observations, which I thought sufficiently supported my contention, as I had twice tried to Italianize my apiary with queens mated in it where I had allowed drones to fly that came from mismated Italian queens, with unsatisfactory results. I hoped to elicit replies from those who had had experience in the matter, to see whether our experience conincided or not. Perhaps I was unwisely positive on the subject, but I really intended some things I wrote to be received with a smile. But I soon saw the difference between the smile of those who knew me and understood me, and those who did not, and took it more seriously than I intended.

The replies I received were sometimes derisive, and none gave any experience of their own in the matter, even when it seemed they ought to have had abundant opportunity for scientific experiment, but all seemed satisfied to reply on the experiments of the very few scientists who had examined the eggs of a queen with a microscope and found spermatozoa only in those laid in worker-cells. This seemed to me far from conclusive, and I thought we ought to have more corroborative evidence than we had, before we regarded the theory as established.

I knew that my observations were not infallible, that there were plenty of chances to be mistaken, and that further evidence was necessary before a just conclusion could be reached, and I was surprised at the apathy of bee-keepers on so important a subject.

As my experience relating to this subject had only been with Italian bees, which I knew would sometimes appear to be pure when they were not, and having a strain of "golden" Italians that were too cross to suit me, and having found the Banats to be as good in every respect and the most peaceable bees I ever saw, I decided to replace all my queens with those reared from a tested Banat, allowing them to mate, as they almost invariably would, with golden drones, and this I carried into effect, carefully eliminating all sources of error. This gave me the opportunity to observe carefully the effect of such mating on the resulting progeny. I found that the workers varied from mostly dark colonies to those that would pass for pure Italians if color alone was considered as an index; but, to my surprise, the drones were in every case all black, like those from a tested Banat queen. After the drones from the goldens had disappeared, I rearerd about a dozen more Banat queens, which must almost unavoidably mate with the drones from mismated Banat queens, and, I must confess, in every case but one the resulting worker progeny were apparently pure, and that one was but slightly impure. There are several things that might have caused this exception, and I can not tell which, but I must now confess that it appears to me that a queen's drones are affected very slightly, if at all, by her mating.

I intend to replace all these mismated queens with the Banat queens, reared from tested mothers, as soon as convenient, but need not be in a hurry about it as these hybrids are not as cross as those from the Italian and German races. In doing this, I may learn something more on the subject, but at present I will retire without any further apology, as I do not think my articles have done any real harm to any one, and I do not intend often to inflict my cogitations on the bee-keeping fraternity in the future.

T. W. Livingston.

Leslie, Ga., Oct. 19.

200 Pounds of Honey from 1 Pound of Bees

Hamilton County, Ohio (in which the City of Cincinnati is located) has 3500 colonies of bees. Here is where the late Chas. F. Muth (who loved bees so much that he kept them next to his sleeping room, and originated the first roof-apiary of the world) went along the highways, the hills and waste-places, and scattered the seeds of honey-plants 40 years ago. His unselfish love and prophetic eye have made a Garden of Eden here for the honey-bee. Toward the east, on the hillsides, we have 2000 acres of yellow and white sweet clover blooming the first of May and the first of June, respectively; toward the west, in the lowlands, we have 1000 acres on which grow the spanish-needle, smartweed, sweet clover, wild cucumber, etc.

At Hamilton, Ohio, just 20 miles away, the great poet, prophet and most helpful philosopher of bee-culture lived and experimented for many years; and 50 miles away his sacred dust rests in Woodland Cemetery in Dayton, Ohio. Oh! sacred dust, whose love was wonderfully exemplified in the life and works of L. L. Langstroth, author of the "Hive and Honey-Bee."

Now let us come to the specific explanation of how one pound of bees gathered such a splendid crop of honey:

Last winter many of my bees died. I have an out-apiary at Dayton, on a little home-apiary at Cincinnati as a sort of thermometer. Three colonies out of the 4 died at the home-apiary. This left me with splendid combs on which to start another colony. I sent for 1 pound of bees to a firm in New York State, which were sent by express for $1.00, in a small box largely made of wire-netting. The bees arrived in early May, in excellent condition, for by actual count I found only 27 dead bees in the box. I started them with a queen 4 weeks old, on 5 frames well packed in a 10-frame hive in perfect condition.

In 3 weeks I gave them 5 more frames, with about 10 pounds of honey. The middle of June I gave them another hive-story, and the last of July another. They had no comb to build. Some talk of "shaking" bees; I suspect the express company shook them well (for they "shake" all their patrons!)

The way those bees went to work was simply wonderful. They were just like some people escaping from a great calamity—expressed their gratitude by a most faithful service. The hive condition must have been perfect, and their express journey terrible. Then there was the 2000 acres in front of them, and 1000 acres back of them—the harvest great, and labors few; a perfect honey-field, and more perfect weather. Then Halley's Comet may have electrified this old earth again, so that all plant life shall more bountifully secrete nectar for the next 75 years (for I have often heard old "gray-heads" speak about the "great honey crop" 40 years ago).

Now, Mr. Editor, since the comet has come and gone, you can lay your plans good and strong, for again the Old Earth has renewed her honeyed youth; and Mr. Reader, if you cannot understand, and do not believe that my bees produced this splendid crop of honey, why, come and see me, and I will be able to drown you in a barrel of honey!

This experiment suggests to me that we might in early April or fruit-bloom secure bees by the pound from the South, and then renew our colonies that hard winters have put to sleep.

(Rev.) F. R. Wagner.

Cincinnati, Ohio, Oct. 27.

Some Bee-Keeping Experiences

I have been a subscriber to the Journal for the last 2 years, have been in the bee-business 3 years, and have read many communications from other bee-men which I have enjoyed very much, so I will give some of my experiences.

I am not as extensively in the business as I expect to be. I began in 1908 with only 2 colonies, increased to 4, and ran for comb honey only. I got along nicely. My bees were all hybrids at that time, and my troubles did not begin until the spring of 1909. All my bees came out in the spring of 1909 very strong, and in good shape, but the spring was backward, cold and rainy, and in May they began to swarm. In the beginning I had one of the best systems that could be had, I studied it thoroughly, and had no trouble in controlling the swarms as they issued. I increased to 27 strong colonies, and put supers on the old colonies and some on the young colonies that had issued early. It wasn't long until the honey-dew began to roll in, and I realized that I was "up against a tough proposition." But I let things go on until Aug. 1st. I sent to a prominent queen-breeder in Illinois for several of his best red-clover queens, and received them promptly and in fine shape. I went through all the colonies that had stored surplus, and took off all the black stuff, for it wasn't good for anything; but when going through I found that they did not have very much honey of any kind in the brood-chambers, and I took some of the weakest queens out and introduced the red clover queens. About Sept. 1st I began to feed until they were all in good shape.

Out of the 27 colonies that I had, they were not all natural swarms, as I got

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For the enclosed 50 cents, send Farm Journal the rest of 1911 and all of 1912, and one copy of "Million Egg Farm," postpaid, to

Name...

P. O...

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queens and made several artificial swarms, which did well according to the time they had. I went through the following winter with 27 colonies, all on the summer stands; I packed them as I usually do, but the winter was so severe and long that I came out with only 13 colonies, spring count, and all very weak at that. As I live in town, and my yards are 7 miles south, I couldn't, and didn't, give them the proper attention at the right time, but last spring, after my losses, I concluded to do the best I could, so I began to stimulate to get them in shape for the white clover, which I saw would be bountiful but which the dry weather cut short to a great extent after all, and I did fairly well. Strange to say, my best colony was hybrids and gathered 140 sections of as fine a honey as I ever tasted; but all the colonies did well, and I am closing the season very well pleased.

I attribute my success to the non-swarming plan which I have worked out myself and which works splendidly. I had only 2 swarms this year. I will give my plan to the readers of the American Bee Journal later on.

My bees are in good shape for winter, and I have never seen them so heavy with honey in all my experience. On June 6th I received 4 of the 5-band Italian and 2 Caucasian queens (which are black all over, in fact, the blackest bees I ever saw). On July 3, I took 2 frames of brood each out of 10 of my strongest colonies and gave them 6 new queens, the 2 blacks included. About 4 weeks ago I found those black "rascals" chock full of honey and boiling over with the blackest lot of bees that I ever saw. While the 4 Italians were doing fine, they are not up to the "blacks" at this time. I got the two Caucasians to experiment with, and I am anxious to see how they will come out next spring. I will let the readers of the American Bee Journal hear later on as to this.

I am a mechanic and make all my own hives, and use only 8-frames in 10-frame hive-bodies. I am well pleased with the results, and expect to increase as fast as I can until I reach 100 colonies.

Later I will give you an account of my hive-invention, and also how I prevent swarming. I expect to continue to be a subscriber to the American Bee Journal.

WM. C. KINO.

Connersville, Ind., Oct. 7.

No Trouble to Sell Honey

I notice that some bee-keepers have a hard time to get a good price for their honey. I get 20 cents a pound for all of my nice full sections, and 15 cents each for all of the culls. The only trouble I have is to get enough honey to meet the demand. My bees are golden yellow, and gather all the honey there is within reach of their tongues.

Centerville, Ind. F. A. BRADBURN.

Moving Bees Long Distance—Foul Brood

We are having very nice weather. Bees were flying today, and have been flying every day since Nov. 21st, with the exception of 3 days, 2 of which were cold, and it rained all of one day.

I have lost so far 5 colonies out of 40 in moving my bees from Chicago. I had them well packed. There were no combs broken, but it was rather a long journey for them. There was some very hard shaking on the car, I know, for I was in the car, also.

My colonies are all clean and healthy, but several are very weak after moving. We have some very nice, sunshiny days, and when I hold up a comb I can easily tell whether or not it is clean.

I had much experience last summer with foul brood. All the colonies I treated according to the Phillips and France method came out all right. On some other colonies I tried another treatment, but it was a failure, and re-acted in the fall. The only successful way is to take out all the brood and larvæ and burn them up, and take out the rest of the combs of the hive and melt them into wax. Then give the bees a clean hive and a few frames with comb foundation starters; on the third or fourth day give the clean combs of frames with full sheets of comb foundation. In 9 times out of 10 they will stay clean after that. I have one colony here which I treated June 15, 1910, that gave me afterward one super of surplus honey. This colony has lots of honey stores, and is very strong. I would not sell this colony today for less than $20. It has an exceptionally fine old queen.

P. J. THULLEN.

Bay Minette, Ala., Jan. 1.

Good Prospects for 1911

As this is the last of the year all the business houses are taking stock and closing books, consequently there is no demand for honey, and there will be none for the next 3 or 4 weeks worth talking about.

The general outlook for business is very bright indeed, both for honey and bee-supplies; in fact, business in every line has a brighter look than a year ago, and we are confident the result will be just what we are looking for—"Prosperity."

During Thanksgiving week, while climbing the hills of Kentucky, we saw more clover than ever in our lives, which is a good indication for the bee-keepers that there will be a good flow of honey for 1911.

THE FRED W. MUTH CO.

Cincinnati, Ohio, Dec. 30.

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb, honey-kegs at 50c each f. o.b. factory. N. L. Stevens, Moravia, N. Y.

ITALIAN Untested Queens, 75 cents; Tested, $1.25. Breeders, $5.00 each. E. M. Collyer,
8A12t 75 Broadway, Ossining, N. Y.

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

WANTED—One 12-in. Gem Planer; 1 Dovetailing Machine. T. L. McMurray,
11Atf Ravenswood, W. Va.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address,
12Atf T. F. Bingham, Alma, Mich.

WANTED—1000 dead queens, and 1000 dead drones. Am. Apiculture & Farming Co.,
12A3 2623 Emerson Ave., St. Louis, Mo.

WANTED—A few more 4 and 5 year old Queens; also bees—delivered in Chicago.
C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

WILL GIVE AWAY 400 empty honey cans for cost of the boxes, to make room for stock. The Frisbee Honey Co.,
Box 1014, Denver, Colo.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, $1; Tested $1.50; Select Tes. $2; Breeders, $5 to $10
8A12t J. B. Brockwell, Bradley's Store, Va.

OUR CATALOG of Poultry, Bees, Bee-Supplies, with free premiums now ready, and yours for the asking. Send for it. Bargain offers and information. H. S. Duby,
1A2t St. Anne, Ill.

WANTED—Some one who wants a good location for bees, to take up a homestead or Government land. I know a few nice vacant pieces. Address, Jas. M. Level, 8Atf
Yacolt, Clark Co., Wash.

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal,
117 N. Jefferson St., Chicago, Ill.

SITUATION WANTED—By a young man who has successfully passed examination after taking course of lectures and practical work in Apiculture at the Ontario Agricultural College. Any one desiring help of this kind for the season of 1911, kindly correspond with— Morley Pettit,
Provincial Apiarist, Ont. Agri. College,
1Atf Guelph, Ont.

FOR SALE—175 Colonies of Bees, good alfalfa and sweet clover range; 3 apiaries; complete modern outfit for both comb and extracted honey production. No bee-diseases. No honey crop failure so far. Good home market, excellent mild climate. Price right. If interested, write at once.
12A2t C. Wiersteiner,
Roswell, Colorado Springs, Colo.
REF. — Colo. Honey Producers' Association.

BACK NUMBERS WANTED.—I still need of Vol. XXXIV (1894) Nos. 8, 11, 12, and 16, to complete my files of the American Bee Journal. I also need of the Canadian Bee Journal for 1893, Jan. 1st and 15th, Feb. 15th, and March 1st and 15th; of the Bee-Keepers' Review, January, 1880, and February, 1893. I will be glad to hear from any one who is able to furnish all or any of these missing copies. Address, Morley Pettit,
Provincial Apiarist, Guelph, Ont.

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ill.

POSITION WANTED.—As Manager of large apiary to be run for queens, bees by the pound, nuclei, full colonies, and for honey-production; said apiary to be located in Central Ohio, in a most excellent location, with best shipping facilities—of five railroads, three express companies and traction service.

The applicant is strictly temperate, 40 years of age, married, and is a thoroughly seasoned apiarist. Can rear queen-bees by any known method, and is familiar with every detail of the queen-business, as well as the production of comb and extracted honey; also familiar with the diseases of the bee and their treatment.

He has had full experience in the preparation of bees and queens for shipment to all parts of the globe. The applicant will furnish apiary site, and construct all necessary apiary buildings at his own expense, and will contract for two to five years' service. The very best of reference will be gladly furnished. Address,
Box 473, Marion, Ohio.

Honey to Sell or Wanted

WANTED—White clover, basswood and amber extracted honey. Give prices and description. P. B. Ramer, Harmony, Minn.

WANTED — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

HONEY WANTED.—We are in the market for both extracted and comb honey. Let us know what you have, with sample of extracted honey, lowest prices f. o. b. Chicago, how put up, etc. Address,
GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ill.

FROM THE BEE-YARDS OF HENRY STEWART the thickest, finest-flavored white clover honey I ever produced. Put up and nicely labeled in
2-lb. tin friction-top can, 36 in case, $8.60.
5-lb. tin friction-top pails, 12 in case, $6.75.
10-lb. tin friction-top pails, 6 in case, $6.50
1 protected tin can, 60 lbs., $6.00.

The 2-lb. cans contain as much honey as 2½ of the average sections, and is a good retailer. Also 10,000 lbs. of Clover and Heartsease blend a very fine honey at a less price. Satisfaction guaranteed. Sample free.
10Atf Henry Stewart, Prophetstown, Ill.

TOLEDO
Is the Place to
Buy Your Bee-Ware.

Griggs
Is the Man who can
**Tell You What to Use
and How to Use It.**

He is a Practical Bee-man of 25 years' experience. Send to him for his CATALOG—at the Old Stand—

S. J. Griggs & Co.,
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TOLEDO, - OHIO.

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Please mention Am. Bee Journal when writing.

Bee-Supplies
We are Western Agents for—— 1Atf
"Falconer"
—— Write for Catalog.
C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.
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Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.
Send 25 cts. for Illustrated Bee-book for beginners—"A gem." Dis. for early orders.
J. W. Rouse, Mexico, Mo.
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16 CENT SEED SALE

10,000 KERNELS OF Selected FERTILE SEEDS for 16c

1500 Lettuce
1000 Onion
1000 Radish
100 Tomato
1500 Turnip
1200 Brilliant Flower Seeds, 50 sorts
1000 Celery
100 Parsley
1500 Rutabaga
1000 Carrot
100 Melon

Any one of these packages is worth the price we ask for the whole 10,000 kernels to start with. It is merely our way of letting you test our seed—proving to you how mighty good they are.

Send 16 cents in stamps to-day and we will send you this great collection of seeds by return mail. We'll also mail you absolutely free our great catalog for 1911—all postpaid.

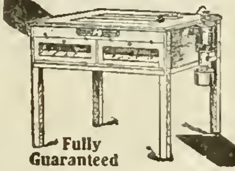
JOHN A. SALZER SEED CO.,
210 South 8th Street, LaCrosse, Wis.

Please mention Am. Bee Journal when writing.

$5.20 Buys My Double Wall, Hot Water Fifty Egg Incubator

A better machine for the money cannot be had. Guaranteed to hatch every fertile egg. Double walls. Hot water tank covers entire top of egg chamber. Absolutely self-regulating. I've built incubators for 30 years.

800,000 Satisfied Users of Stahl Incubators



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100 egg size, price $7.60
200 egg size, " $9.60

80-page catalogue shows full line of Excelsiors, Wooden Hens, Brooders, etc. Write for it to-day.

GEO. H. STAHL
Box 216-B, Quincy, Ill.

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Ask the editor of this paper if Stahl and his Incubator are right.

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BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

DOOLITTLE'S "Scientific Queen-Rearing"

This is G. M. Doolittle's master-piece on rearing the best of queens in perfect accord with Nature's way. It is for the amateur and the veteran in bee-keeping. The A. I. Root Co., who ought to know, say this about Doolittle's queen-rearing book:

"It is practically the only comprehensive book on queen-rearing now in print. It is looked upon by many as the foundation of modern methods of rearing queens wholesale."

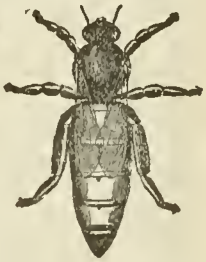
Mr. Doolittle's book also gives his method of producing comb honey, and the care of same; his management of swarming, weak colonies, etc. It is a book of 126 pages, and is mailed at the following prices: Bound in cloth. $1.00; bound in leatherette, 75 cents.

Special Clubbing Offer

We offer a cloth-bound copy of this book with the American Bee Journal one year—both for $1.50; or a copy of the leatherette-bound edition, with the American Bee Journal one year—both for $1.25. The cloth-bound book given free for getting 3 new subscribers at $1. each; or the leatherette-bound copy given for 2 new subscribers.

Every bee-keeper should have a copy of Mr. Doolittle's book, as he is one of the standard authorities of the world on the subject of queen-rearing and everything else connected with bee-keeping and honey-production.

George W. York & Co., Chicago, Ill.



Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. Lyons,
8A12t Rt. 5, Box 88, Ft. Collins, Colo.
Please mention Am. Bee Journal when writing.

SWEET CLOVER SEED.—See our offers of sweet clover seed in another column. We have both the White and the Yellow varieties, and can fill orders promptly. Address,
GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ill.

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Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

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Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

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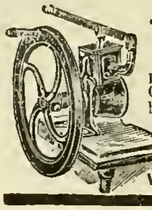
Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

☞ The oldest Bee-Supply Store in the East. 2Atf



This Bone Cutter

produces filled egg baskets. Cuts fast and easy. Green bone, scraps from table, vegetables, scrap cake. Always ready for use.
Send for catalog.

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Complete Service at Chicago

CHARACTERISTIC of the **Root Way** is our ready-for-service equipment at the Chicago Branch. In no detail have we neglected to prepare for the patronage of our bee-keeping friends in the territory contiguous to this great distributing center. Let us recount our preparations for your benefit:

1911 Supplies & Stock

Abundant room in this branch enables us to carry a very large stock which practically represents every article in the big **Root** line. All goods listed in former catalogs and still on sale are here together with the new and improved lines to be shown in the forthcoming catalog. No delay in filling even the largest orders at Chicago, is our policy.

Shipping Facilities

With 25 great railroads and 7 express companies ready to distribute our goods in all directions; with a tunnel station for freight close at hand, with every facility for quick packing and delivery at railroad, express office or boat, we await your call. Immediate attention is our invariable rule.

Packing.

We do not charge for packing, boxing or delivering to freight or express offices here in Chicago. We do not prepay any charges unless goods are to be delivered to a prepaid station, as all our prices and quotations are f. o. b. Chicago. If no agent at your station, notify us and we will prepay and bill charges after shipment.

We aim to get all Mail and Express Orders off the Same Day they are received. Freight Orders are filled in order of receipt.

OUR LOCATION—We are pleasantly located at 213-231 Institute Pl., one block north of Chicago Ave., between Wells & Franklin Sts., on the 6th floor of the Jeffery Bldg. Fine elevator service—both passenger and freight. Large, light, well-fitted display rooms to which you and your friends are always welcome.

HOW TO REACH US—Telephone, telegraph, write or call. Take any Northwestern Elevated train, get off at Chicago Ave., walk one block north on Franklin St., and half block east on Institute Pl., or take any car running north on 5th Ave. & Wells St., get off at Institute Pl. and walk one-half block west.

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Mr. Bee-Man

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Beeswax Wanted.

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If you take advantage of this liberal offer. The NATIONAL is an up-to-date poultry paper, published monthly in honor of Her Majesty, the American Hen. Devoted to practical poultry keeping in all its branches, it will help you make more money out of your poultry. Try it a year at our expense, by sending us your name and address plainly written, and enclosing only fifteen (15) cents to help pay postage, and we will send you the NATIONAL for one full year. Address,

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Beeswax Wanted. 28c Cash—30c Trade

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HONEY

Both COMB and EXTRACTED. State quantity you have to offer, with all particulars.

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The Imperial & Royal Agricultural Association of Carniola, Austria

Exports Strictly Pure Carniolan Alpine Bees

The above-named Association, founded in 1767, counts as its members many thousands agriculturists of the Austrian province Carniola, among whom are many successful breeders of the pure Carniolan-Alpine strain of bees. The Association is under the protection of the Austrian Government, and the officials of the same are appointed, paid and controlled by the Imperial & Royal Department of Agriculture, in Vienna.

To insure the pure blood of the exported Carniolan-Alpine bee, and to sustain her name as one of the best honey-producers, possessed of all the other characteristics that bee-keepers appreciate most—for this purpose, the Secretaries of Agriculture and Commerce of the Austrian Government, the new venture of the above Association, have sanctioned and subsidized. Queen-Bees and stock in hives shipped directly from Carniola to orders given in the U. S., Canada and Mexico. For further particulars, address,

The Imperial & Royal Agricultural Association,
Ljubljana, Carniola (Krain), Austria.

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FENCE ***Strongest Made***

Made of **High Carbon Double Strength** Coiled Wire. **Heavily Galvanized** to prevent rust. Have **no agents.** Sell at **factory prices on 30 days' free trial.** We pay **all freight.** 37 heights of farm and poultry fence. **Catalog Free.**

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Get into the 150 to 250 eggs a year a hen class. Make your hens winter layers when prices are high. You can do it the Humphrey Way. Send for book, "The Golden Egg" and Egg-making facts on the Humphrey Bone Cutter and other Humphrey Poultry Helps.

HUMPHREY, Ambee St. Factory, Joliet, Ill.

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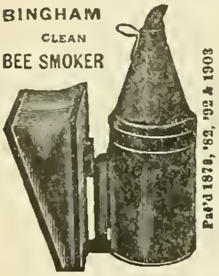
WANTED.—To complete files of the American Bee Journal, parts of Volumes XXIX to XXXIV, inclusive. Any one having any of these to offer, please write to—

Morley Pettit, Guelph, Ontario, Canada.

HAND-MADE SMOKERS



Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

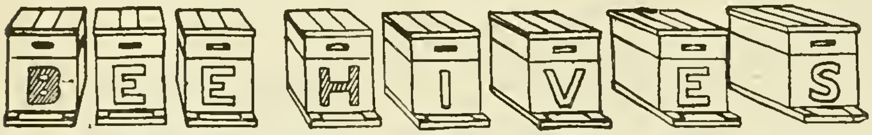
Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.

Patented, May 20, 1879. **BEST ON EARTH.**



Are our **Specialty.** We furnish such extensive bee-keepers as E. D. Townsend and others. Consider getting your bees into **Protection Hives** this Fall. Give us list of Goods wanted.

A. G. WOODMAN CO., Grand Rapids, Mich.

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Hatch After Hatch 90%—or Better

Write today. Don't *you* start this new Billion Dollar Chicken money year, without getting our Big Free, 212-page book for money-makers, "Profitable Poultry Raising"—greatest we've ever issued. It tells about

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with *late letters* from Cyphers owners all over the country proving biggest hatches right along. Own a *real* incubator—*not an imitation.* Before you buy *any*, get the *facts.* They're all in our Big Free Book. Address

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Marshfield Sections

Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

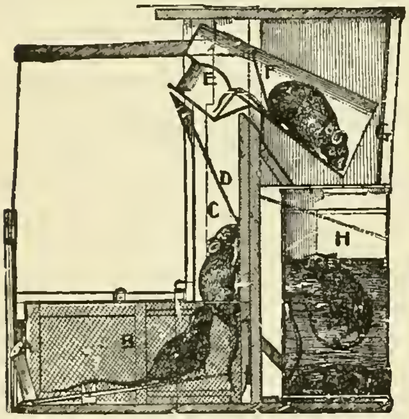
Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

The Celebrated Self-Working Traps for Catching Rats and Mice

Over 500,000 NOW in USE.



These Traps will clear your premises of Rats and Mice without the use of cats, dogs and poisons. They are used in the United States Government stores and by Marshall Field & Co., the Deering Harvester Co., the National Biscuit Co., of Chicago, etc. These firms certainly would not use these Traps unless they were a success. While their prices are higher than ordinary mouse or rat traps, they are worth it, as **they do the business.** Here are a few extracts from testimonials from those who are using them:

We have tried all kinds of traps and devices to catch mice, some better than others, but all have failed in the long run. At the present time, we must admit that your Trap is the best mouse-catcher we ever saw.—C. W. ZEIGLER Co., Chicago.

The Mouse-Traps we bought of you have proven to be very effective. Within two weeks 75 to 80 mice were caught.—GEO. BULLEN Co., First National Bank Bldg., Chicago.

Send us as soon as possible 3 more Mouse-Traps. We sold ours and can not afford to be without them, as they more than pay for themselves. We have caught as many as 13 mice in one night. Those 3 traps we had 12 days, and in that time caught 153 mice.—LATHROP PET SHOP, Rochester, N. Y.

Enclosed find check for $4.50 for one Self-Working Rat Trap, which has proven satisfactory, and we can recommend very highly.—WM. SPEIDEL CO.

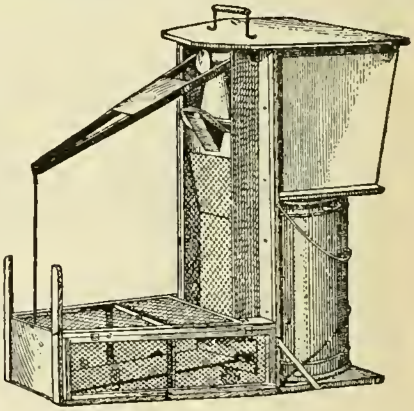
Our Special Offers on Traps

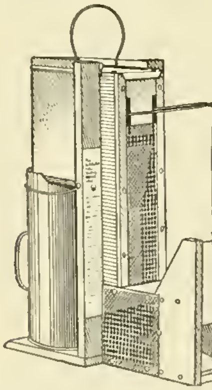
For 10 years this Self-Working Mouse-Trap has been sold for $2.25, and the Rat-Trap for $4.50, either by express or freight. The rat size Trap weighs 15 pounds, and the mouse trap 5 pounds. Each is securely crated and delivered to express or freight station here. But we have made a special arrangement with the manufacturer of these traps, so that we can offer them at the following prices:

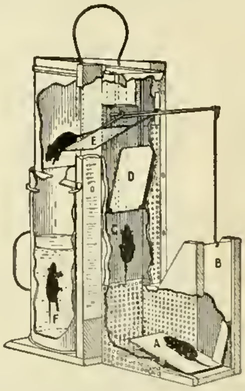
The Mouse Trap, f. o. b. here, $1.50; or with the American Bee Journal one year—both for $2.25—just the amount this Trap **alone** has been sold at for years.

The Rat Trap, f. o. b. here, for $3.75; or this Trap and the American Bee Journal for one year—both for $4.50—just the amount the trap **alone** has been sold at for years.

These traps are not sold through dealers, but always direct from the manufacturer to the user. They are not toys, like most of the mouse or rat traps offered, but are in fact a machine that is scientifically correct in its construction, and that continues to do the work for which it is intended. A faithful trial will convince any one of the superiority of these traps over any similar device on the market. Being self-setting and self-working, or automatic, they need no watching except to empty the can of drowned rats or mice. Address all orders to the name and address given below.







George W. York & Company, 117 North Jefferson Street, Chicago, Illinois.

HONEY AND BEESWAX

CHICAGO, Dec. 29.—The year closed with very little change in the price of comb honey. Fancy brings 18c, No. 1, 17c, and the other grades from 1@2c less. The amber grades are more uncertain in price and are accumulating. Extracted honey is steady from 8@9c for white, with amber grades 7@8c. Clean beeswax is bringing 32c, and sells upon arrival. R. A. BURNETT & Co.

DENVER, Dec. 30.—Demand for honey is light, which is usual shortly before the Holidays; prices are well maintained, however, especially on first-class extracted. Our jobbing quotations are as follows: Strictly No. 1 white, per case of 24 sections, $3.60; No. 1 light amber, $3.38; No. 1, $3.15. Extracted, white, 9c; light amber, 8@8¼c; strained, 6¾-@7½c. We pay 25@26c for clean yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

KANSAS CITY, MO., Dec. 29.—The demand for extracted honey is fair, but the supply limited; the demand for comb is fair and the supply not large. We quote: No. 1 white comb, 24-section cases, $3.50; No. 2, $3.25; No. 1 amber comb, $3.25; No. 2, $2.75 to $3.00. No. 1 white extracted, per lb., 8½c; No. 2 amber, 6½@7½c. Beeswax, per lb., 25½@28c.
C. C. CLEMONS PRODUCE CO.

CINCINNATI, Dec. 30.—Comb honey is in fair demand, and same is selling at $3.75 per case for No. 1 white. Amber extracted, in barrels, is selling at 7c; in cans 7½@8c. White extracted honey in 60-lb. cans at 9@10c. California light amber at 8½c. All grades of extracted honey are in fair demand. Beeswax is in fair demand at $32 per 100 pounds. These are our selling prices, not what we are paying. C. H. W. WEBER & CO.

INDIANAPOLIS, Dec. 29.—The demand for best grades of white honey is brisk. Jobbers are offering fancy white comb at 18c; No. 1 white at 17c. Finest extracted at 11c, with some slight reductions on quantity lots. It is to be presumed that producers are being paid about 2 cents less, per pound, than above prices. Amber honey is in poor demand here. Producers of beeswax are being paid 28 cents cash, or 30 cents in exchange for merchandise.
WALTER S. POUDER.

ZANESVILLE, OHIO, Dec. 29.—The usual holiday lull characterizes the honey market. Some late arrivals have filled stocks up for the time being, and indications are that movement will be slow for a month or six weeks. For No. 1 to fancy white comb the jobbing trade are offering 16@17c, and for best white extracted 8½@9c. Wholesale prices run about 2c higher than above. For beeswax, producers are offered 28c cash, or 30c in trade. EDMUND W. PEIRCE.

BOSTON, Dec. 30.—Fancy and No. 1 white comb honey, 15@16c. Fancy white extracted, 10@11c. Beeswax, 30c. BLAKE,-LEE CO.

NEW YORK, Dec. 30.—During the past 3 or 4 weeks the demand for comb honey has fallen considerably on all grades. This, however, is usually the case at this time of the year, especially for No. 1 and fancy white. Off grades of white, mixed and buckwheat, especially the latter, are finding very slow sale, and we find it up-hill work in trying to find buyers for even strictly fancy buckwheat. Some commission houses are offering buckwheat comb honey as low as 8c per pound, and no buyers. We quote fancy white 15c per pound; No. 1 at from 13@14c; off grades at from 10@12c; and mixed and buckwheat at from 9@10c. Extracted is in fair demand, with a rather short supply of white clover and California. In fact, California honey is practically cleaned out. We quote white clover and basswood at from 9@9½c; light amber at from 8@8½c; buckwheat and amber at from 7@7½c; West India and fancy Porto Rican at from 85@90c per gallon; other kinds at from 75@80c; Southern, choice quality, at from 75@80c per gallon; common grades at from 70@75c. Beeswax quiet at from 29@30c per pound.
HILDRETH & SEGELKEN.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time from now until next April or May. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.20; 25 pounds for $3.00; 50 pounds for $5.50; or 100 pounds for $10.00.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL

We wish you a

Happy New Year

and believe we can help you to enjoy the year 1911 by urging you to use

Our Line of Bee-Keepers' Supplies.

FREDERICK, MD., Jan. 14, 1910.
Gentlemen:—I made several hives before I ordered a hive from you some time back, but they were so bad I made them over again. I want to say I will never attempt to make any more; for when I saw the hive you sent me I was ashamed of mine, so I cut them down to regular size and cast away all inside fixtures. When I need hives again I will get yours.
B. N. CHRIST.

Gentlemen:
I have just received my goods. I am more than pleased with them. I had intended to make my hives; but when I received the sample hive and saw the No. 1 pine lumber it was made of, and considered the workmanship, I felt satisfied that I could buy cheaper than I could make them—enough cheaper to save the price of the lumber. Yours,
O. C. MILLS.

Winter Work

It is none too early to begin to think of supplies for next season. If you get your goods early you will avoid the rush of the busy season later, and you can really buy to better advantage now than at any other time during the year. Even if your order is small, it will pay you to save something on it; and if you use a large quantity of goods during the season you surely can not afford not to take advantage of our **early-order discount,** which is **three percent** for all **cash** orders received before January 15th.

You may order your goods now and have them come along later, or we will ship at once and you will have time to get them ready for the harvest next spring at your leisure during the winter. We are always glad to make suggestions and quote prices on any list submitted. If you have never bought supplies from us, try us this season and see if you do not agree with us that we furnish the best bee-supplies made, and give you the best possible service. It means a good deal to YOU to get the best of goods and service for YOUR money. We give you both. Try us.

C. H. W. WEBER & CO., 2146 Central Avenue, CINCINNATI, OHIO

Is your crop of White Clover Honey short? We can furnish you with

ALFALFA HONEY

Both White and Water-White. Finest Quality. Prices quoted by return mail, and Shipments made Promptly.

Beeswax Worked for You Into

DADANT'S FOUNDATION

Best by Test. Let us send you Proof.

Beeswax wanted for Cash or in Exchange for **Bee-Supplies**

Early Order Discounts now offered for Cash.

Satisfaction Always Guaranteed.

DADANT & SONS, Hamilton, Illinois.

"Falcon" Branch House

in CHICAGO — 117 N. Jefferson St.

"The Only Bee-Supply House in the Business Section of Chicago."

Our friends will be delighted to learn that we have established a branch in Chicago where they may get the Famous "Falcon" Goods without a moment's delay. Our office was opened just before Christmas, and by the time you read this the first car will be in stock. Send a list of your wants at once, and get some of these "Falcon" Goods fresh from the saws of the factory.

The location is ideally convenient, being nearly opposite the Union Depot, and the new Northwestern Station; but we are much more fortunate in securing the services of **Mr. George W. York,** Editor of American Bee Journal **for our Office Manager.** Your correspondence and orders will receive his personal attention.

Make our office your headquarters when in the City, and don't forget to send us a list of your wants for 1911, immediately.

W. T. FALCONER MFG. CO.

117 N. Jefferson St. **CHICAGO, ILL.**

AMERICAN BEE JOURNAL

Volume LI.

No. 2.

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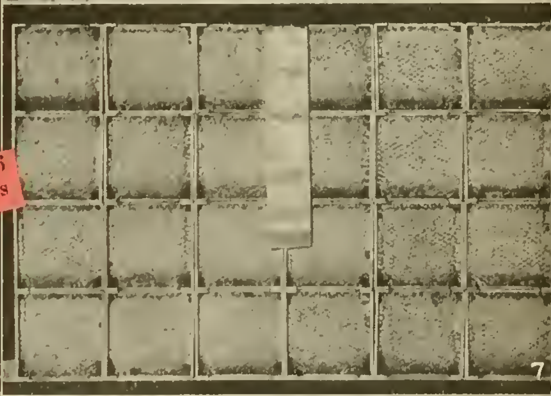
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AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America (except in Chicago, where it is $1.25), and Mexico; in Canada, $1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec11" on your label shows that it is paid to the end of December, 1911.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your address-label, which shows that the money has been received and credited.

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Reading Notices, 25 cents, count line.
Goes to press the 6th of each month.

National Bee-Keepers' Association.

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

Officers and Executive Committee.

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Vice-President—W. D. WRIGHT, Altamont, N. Y.
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Are YOU a member? If not, why not send the annual dues of $1.00 *at once* to Treas. France, or to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

SUPERIOR BEE-SUPPLIES

Specially made for Western bee-keepers by G. B. Lewis Co. Sold by
Colorado Honey-Producers' Association,
DENVER, COLO.

Untested Italian Queen-Bees

Our Standard-Bred

6 Queens for $4.50; 3 for $2.50; 1 for 90 cents.

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co., Kan., July 15. A. W. SWAN.

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best. She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada, July 22. CHAS. MITCHELL.

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22. N. P. OGLESBY.

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O. K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. MCCOLM
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for $1.60. Three Queens (without Journal) would be $2.50, or 6 for $4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

George W. York & Co., Chicago, Ill.

Please mention Am. Bee Journal when writing.

STRAWBERRY PLANTS

200 ACRES OF THEM. I GROW NOTHING ELSE

I do not run a nursery—or seed business. I devote all my time to Strawberry Plants. I personally superintend my farm. Every plant guaranteed "true to name." Plants grown in *Natural Strawberry Climate*; soil right, too. Strong rooted, prolific bearers. Prices right. Get my 1911 Catalog. Write to-day.—NOW.

W. W. THOMAS. The Strawberry Plant Man 152 Main St., Anna, Ill.

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MAKE HENS LAY

By feeding raw bone. Its egg-producing value is four times that of grain. Eggs more fertile, chicks more vigorous, broilers earlier, fowls heavier, profits larger.

MANN'S LATEST MODEL Bone Cutter

Cuts all bone with adhering meat and gristle. Never clogs. **10 Days' Free Trial.** No money in advance.

Send Today for Free Book.

F. W. Mann Co., Box 348, Milford, Mass.

Please mention Am. Bee Journal when writing.

Now for 1911 Bee-Supplies

We have already received several carloads of that "finest of all Beeware"—**FALCONER MAKE**—anticipating the heavy rush of orders sure to come this spring. Prepare yourself NOW, Brother, for we are going to have a Heavy Honey-Yield this season, and those who order early are the ones who will profit most. Send for Catalogue TODAY, and see our "MUTH SPECIAL" Dovetailed Hive, and also our "IDEAL METAL" Cover—both DANDIES. We sell you cheaper than the rest; we have the BEST. Let us figure on your wants—we will surprise you.

The FRED W. MUTH CO.
"THE BUSY BEE-MEN"
51 Walnut Street, CINCINNATI, OHIO

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M. H. HUNT & SON

The best time to buy your goods is during the fall and winter months. We are making **Liberal Discounts for Early Orders,** and would like to quote you **net prices** on your needs for next season.

—BEESWAX WANTED—

LANSING, - MICHIGAN.

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ROOT'S : GOODS

For Western Pennsylvania.

Liberal Early Order Discounts.
Gleanings and Choice Queens **Given Away.**
Write at once for Circular. Time is limited.

GEO. H. REA,
Successor to Rea Bee and Honey Co.,
REYNOLDSVILLE, PA.

Bee-Keepers

Here is a bargain in No. 2
4¼x4¼ **1-Piece 2-Beeway Sections**
$3.25 per 1000. Plain, 25c less.

Send your order to-day. Also write for Catalog. 1Atf

AUG. LOTZ & CO.,
BOYD, WIS.

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Are You Looking for a Bargain? If so, here it is:

100 Colonies of Bees, 8-frame, 1½-story hives, in good shape for winter. No disease. All go for $300.00, or in lots of 10 at $3.00 per colony. Bees near Argenta, Ark. Don't let this chance slip. **It is a bargain.** 1Atf

W. J. Littlefield, Little Rock, Ark.

TRUTH ABOUT POULTRY.—It is in "The Million Egg Farm," a book of verified poultry facts. Get it and Farm Journal nearly 2 years, 50 cents. **FARM JOURNAL,**
1Atf **101 Clifton St., Philadelphia, Pa.**

Honey and Beeswax

When Consigning, Buying,
or Selling—Consult

R. A. BURNETT & CO.
199 S. Water St., CHICAGO, Ill.

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Closing Out Offer

We Have Some Copies Left of the Book

"Bees and Honey"

By Thomas G. Newman

bound in cloth, that we offer cheap to close out. It contains 160 pages, and is bound in cloth. It used to be a one-dollar book, but we will mail them, so long as they last, at 50 cents each; or with the American Bee Journal one year—**both for only $1.20.** Surely this is a bargain. The book is well illustrated, and has some good information in it, especially for beginners. Address all orders to

George W. York & Co.,
146 W. Superior St., Chicago, Ill.

Sections at $3.50 a 1000

We are making this big sacrifice in price to move a lot of 500,000 we have in our warehouse. These are the regular one-piece 4¼x4¼x1⅞ two-beeway Basswood Sections. They are No. 2 quality, and listed at $5.00 per 1000. **Send in your orders now, before they are sold out.**

Our Shipping-Cases

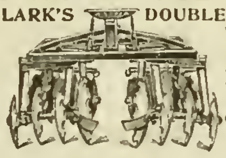
are recommended by the largest honey-buyers in the country. Covers and Bottoms are one piece; everything is Basswood, smooth on both sides, no-drip sticks or corrugated paper in bottom. We make these to fit any number or size of sections. We have on hand a large stock to hold 24 sections, which we offer complete with paper and 2-inch glass at $13 per 100; Crates of 50, $7.50; Crates of 25, $4.00.

Write for Catalog and prices on Hives, Frames, Foundation, or anything you need in the apiary.

Minnesota Bee-Supply Co.

Nicollet Island MINNEAPOLIS, MINN.

A WONDERFUL FARM TOOL



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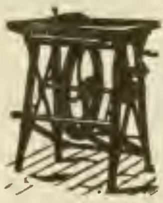
BARNES' Foot-Power Machinery



Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
995 Ruby St., Rockford, Ill.

Please mention Am. Bee Journal when writing.

50,000 Copies "Honey as a Health-Food" To Help Increase the Demand for Honey

We have had printed an edition of over 50,000 copies of the 16-page pamphlet on Honey as a Health-Food." It is envelope size, and just the thing to create a local demand for honey.

The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last is devoted to "Honey Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey as a food, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 90 cents; 100 copies for $1.50; 250 copies for $3.00; 500 for $5.00; or 1000 for $9.00. Your business card printed free at the bottom of front page on all orders for 100 or more copies.

Address all orders to

GEORGE W. YORK & CO., Chicago, Ill.

Hardy "Blizzard Belt" Giant Strawberry Plants FREE

Everybody likes fine strawberries, and to prove that our new GIANT variety is the largest and strongest grower, as well as the heaviest fruiter, we offer to send you TWO PLANTS (worth 30 cents) absolutely FREE. We have picked 12 quarts of fine berries from a test bed grown from but two GIANT plants set the year before. You can do as well, and at the same time raise young plants for a new bed. If you care to send 10 cents for mailing expense, we will add 6 BABY EVERGREENS 2 years old, and send all to you at proper planting time in the spring. It will pay you to get acquainted with our "HARDY BLIZZARD BELT" Trees and Plants. Write to-day and we will reserve the plants for you and send you our catalog by next mail. Address

THE GARDNER NURSERY CO., Box 337, Osage, Iowa

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WANTED---MORE DISTRIBUTING HOUSES

We now have nearly Thirty Distributing Houses all over the United States and Foreign Countries.

But we want more. - There is room for them.

If you are interested, and have the necessary Capital and Experience, write us for our plan.
Exclusive territory given. There is big profit retailing Lewis Beeware
Several big territories now open. Write to-day for further information.

G. B. Lewis Co., Manufacturers of Beeware Home Office : **Watertown, Wis.**

THE NEW 1911 LEWIS BEEWARE CATALOG NOW OUT.

Send for One to nearest Distributing House below.

DISTRIBUTING HOUSES :

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British Isles—Welwyn, England—E. H. Taylor.
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" Delta—Delta Co. Fruit Growers' Ass'n.
" Rocky Ford—A. Lehman.
" Montrose—Robert Halley.
" De Beque—Producers' Association.
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Illinois—Arnd Honey & Bee-Supply Co., 148 W. Superior Street.
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Indiana—Indianapolis—C. M. Scott & Co., 1004 East Washington Street.
Idaho—Lorenzo—Alma Olson.
" —Nampa—Nampa Grain & Elevator Co.
" —Twin Falls—Darrow Bros. Seed & Supply Co.
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Missouri—Kansas City—C. E. Walker Mercantile Co.
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Oregon—Portland—Chas. H. Lilly Co.
Pennsylvania—Troy—C. N. Greene.
Tennessee—Memphis—Otto Schwill & Co.
Texas—San Antonio—Southwestern Bee Co.
Utah—Ogden—Fred Foulger & Sons.
Washington—Seattle—Chas. H. Lilly Co.

A Dewey Foundation Fastener FREE with your Sections and Foundation

At Worcester, Massachusetts, a car-load distributing point for our goods has been established. **Ross Bros. Co., 90 Front St., Worcester, Mass.,** an old established seed-house equipped in every detail to give your correspondence and orders immediate attention, will handle the famous **"falcon"** goods.

As an introductory gift from this point it has been decided to include with the first fifteen orders amounting to Fifteen Dollars sold, **a Dewey Foundation Fastener Free.**

The idea seemed such a good one that we extend it to our three new 1911 carload houses :

Ross Bros. Co., 90 Front St., Worcester, Mass.
C. C. Clemons Bee-Supply Co., 130 Grand Ave., Kansas City, Mo.
W. T. Falconer Mfg. Co. Branch, 117 N. Jefferson St. Chicago, Ill.

Fifteen Dewey Foundation Fasteners will be included free with the first **fifteen** orders of bee-supplies amounting to **fifteen** dollars each, between the **fifteenth** of February and the **fifteenth** of March.

Get a Catalog. Send your order at once. Mention this introductory offer.

The "Dewey" can't be beaten as a machine for fastening starters in sections, nor are **"falcon"** Sections or Foundation, or any other supplies which Mr. Falconer makes, equalled by any other make. Other premiums for those who do not need a Foundation Fastener.

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AMERICAN BEE JOURNAL
L.L. LANGSTROTH
CHAS DADANT

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GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., FEBRUARY, 1911

Vol. LI---No. 2

EDITORIAL COMMENTS

The Name "Extracted Honey"

Quite a lengthy editorial in Gleanings in Bee Cuture is devoted to discussing the "Nomenclature of Honey; Shall We 'Stand Pat' on 'Extracted?'" About 25 years ago this subject was pretty thoroughly gone over in these columns, and after occupying considerable space, we believe it was found that no better term could be agreed upon than "Extracted Honey" for that kind of honey.

Mr. P. W. Richards, of New Mexico, suggests "separated" honey, and calling the extractor a "separator," to correspond with cream-separator. Editor Root says this appeals to him much more than "extracted" and "extractor." But they, or the processes, are not similar at all. The *cream* is separated from the *milk*. Could you separate *honey* from *honey?* Hardly.

It seems to us that in view of the long use of the name, and that the honey has really been extracted (removed) from the honey-combs by a honey-*extractor*, "*Extracted* Honey" is a good name for that article. We doubt if it would be worth while to occupy valuable space with a further discussion of the subject.

Early Cessation of Brood-Rearing

There is probably many a bee-keeper with years of experience who has never realized how early in the season brood-rearing may cease, especially where there is no fall flow. Nor is it always, if indeed ever, that brood-rearing has ceased because the queen has ceased to lay. Close observation is likely to show in the fall that sealed brood is present, and also eggs. That means that although the queen keeps on laying, the bees no longer do any feeding. A striking instance of the early cessation of brood-rearing is given in the British Bee Journal. Mr. W. Herrod had, in the season of 1910, "examined colonies in August in which the queens had given up laying altogether. In one apiary of nearly 300 colonies he did not find more than 13 or 14 with brood, simply because stores had ceased to come in. In such colonies there would be a good many old bees going into winter quarters, and undoubtedly there would be much spring dwindling the following year."

Fortunately such extreme cases are not common, but whenever the honey-flow ceases quite early it may be a good thing to feed enough to keep up brood-rearing. After the queen has actually stopped laying, it may need continuous feeding for some time to get her started again, especially if she is old. Mr. Herrod believes it is a good thing in such a case to requeen in the fall.

Australian Bee-Bulletin on Foul Brood

By the time they reach the other side of the globe the views held by American bee-keepers with regard to foul brood seem to become somewhat distorted; at any rate, one would think so after reading the following from the Australian Bee-Bulletin:

> "American bee-keepers make a distinction between European and American foul brood. The former is said to affect the unsealed larvæ, the latter affects the sealed brood when it develops into a nymph."

Australian readers will naturally understand from that that American bee-keepers hold the view that in one kind of foul brood only unsealed larvæ are affected, and in the other kind only nymphs. So far from that being the case, they believe that although in the European the most of the diseased brood is attacked earlier than in American, yet that both sealed and unsealed brood are affected in each, and that nymphs have not much to do with the case. Editor Abram further says:

> "I have yet to learn that American foul brood differs from European..........When American scientists can show us that there is one disease distinct to Europe, and another to America, well and good; but theory and practice must agree in any case. In the meantime I shall consider the disease in two stages, just as dwindling and paralysis vary in degree only. But all American bee-keepers are not of the same opinion as a few are, and thus the matter is not all American."

Where in the world did Mr. Abram get the idea that American scientists teach one form of foul brood is found only in Europe and the other kind only in America? Whatever may be in Europe, he must be a very careless reader of American bee-papers who thinks that only one kind is to be found in this country. So if Mr. Abram is waiting until it is proven by scientists that American stays in America, and European in Europe, he will never be convinced that there are two distinct diseases under the name of foul brood.

Of course there is no law against his considering the two diseases only one disease in two stages, but it doesn't need a scientist to point out differences that any every-day bee-keeper with two good eyes can see. The stringing out of the brood 1, 2, or more inches that is found in American is not found in European, no matter how far advanced the disease may be. In American, no matter in what stage the disease may be, the dead larva dries down like glue; in European, no matter in what stage the disease may be, the mummified larva may be separated from the cell-wall.

Just what is meant by saying that "dwindling and paralysis vary in degree only," it is not easy to understand. Possibly there is a difference in nomenclature in the two countries, for if dwindling and paralysis mean the same there as here, it is hard to believe that Mr. Abram could possibly think that they "vary in degree only."

If, when Editor Abram says that "all American bee-keepers are not of the same opinion as a few are," he means that only a few American bee-keepers believe that American and European foul brood are two distinct diseases, he needs to be better informed. American bee-keepers may be divided in opinion as to the best method of treatment, but as to the fact of there being two separate and distinct diseases, a somewhat close familiarity with American bee-literature fails to bring to mind a single exception to the rule that American bee-keepers believe the two diseases are *not* the same disease in two different stages. If Mr. Abram knows of such an exception will he kindly produce it?

Workers Reared in Drone-Comb

In a foot-note in the British Bee Journal, the editor says:

> Our own experience with queens confined on drone-comb has been that they can lay eggs which produce workers. We recollect seeing a colony having only drone-comb at Dr. Bianchetti's apiary in Ornavasso. In this case, when the swarm was first placed on the combs, the queen was for some time reluctant to lay, but at last gave in to the inevitable, and when we inspected the hive she was laying eggs which produced only workers, and there were no drones present.

It may be interesting to inquire as to that reluctance of the queen to lay. We may suppose that she did not want to lay drone-eggs, and it is probably the case that she was unable to lay worker-eggs in unmodified drone-cells. So she had to wait until the workers had time to modify the cells by contracting the mouth of the cells with additional wax. There have been a good many reports of worker-eggs being laid in drone-cells, but probably no case has yet been found in which the bees have not first narrowed the mouths of the cells.

Foundation a Time-Saver and Work-Saver

A common argument in favor of using full sheets of foundation is that it saves the time of the bees, but not so much is said of the saving of work. D. M. Macdonald says in the British Bee Journal:

> "Not only is it a time-saver, but it is also a work-saver. Work ages bees more than the few weeks they may live during the active season. Thus we save the valuable lives of our bees at a season when it is of the utmost importance that our colonies should be at their strongest. If a few thousand bees are busy toilsomely evolving wax from the garnered sweets, constructing with that hard-won solid the delicate and dainty fabric of the hexagonal cells, to the number it may be of 50,000, it stands to reason that just so many thousands short go out foraging to the fields which are then white as to harvest. Liberate these thousands by the shorter process produced by a free use of foundation, and you save a vast amount of labor on the part of your toiling thousands, eager to profit by each shining hour."

Different Races of Bees

Gleanings gives the experience of their Mr. Jas. W. Bain with several different races of bees, which experience he had before going to Medina.

Contrary to the opinion of many, he values Carniolans highly. They protect their hives as well as Italians, cap their honey snowy white, and although greatly given to swarming when kept in small hives, they can be kept within bounds in large hives. Carniolan queens are more difficult to find than Italians.

Banats have many of the good qualities of the Carniolans, but resemble blacks more closely than do the Carniolans, making it difficult to keep them separate from the blacks.

Mr. Bain agrees with the general verdict as to the viciousness of Cyprian bees.

Golden Italians are, as a rule, more irritable than the leather-colored, but they cap their honey whiter.

After reading so much about the marvelous gentleness of Caucasians, one reads with no small surprise the following:

> Mr. Bain finds hardly one redeeming feature among the Caucasians, although they do cap honey white. In spite of the claims made as to the gentleness of these bees, they are nervous in their actions, and a good many of the colonies of this race are very difficult to handle on account of their tendency to sting on the slightest provocation. These bees are excessive propolizers, and no better honey-gatherers than the average Italians. One point that we do not remember having seen mentioned is this: It is much more difficult to introduce a new queen to a colony of Caucasians than to Italians, for instance. They will start cells in spite of all that can be done, and about the only way is to remove all brood or else wait until the brood is so far along that cell-starting is out of the question.

The widely diverging views as to different races of bees may no doubt be largely accounted for by the fact that there may be quite a wide difference between individual colonies of the same race.

The Rewards of Bee-Keeping

In a previous number I challenged the statement that for the amount invested bee-keeping gave greater returns than any other business, leaving it for another time to tell why I would still be a bee-keeper.

If money were the only thing to work for, I certainly would not choose bee-keeping. But there are other rewards besides money, and outside the Christian ministry I know of no calling that has greater rewards than bee-keeping, for one who has the proper taste for it.

That matter of taste for one's business is a pretty big factor in the problem, and I'm taking that into account in all I say. If any one has no taste for bee-keeping, then the reasons I give for preferring it to any other secular pursuit will not all appeal to him.

I think I will do well to quote here a word from the Canadian Bee Journal. W. W., in a biographical sketch of Mr. J. L. Byer, says:

> "None of us regard bee-keeping as a means of getting rich quickly. The real bee-keeper—the genuine article—is an optimist and likewise a philosopher. The chief consideration with him is not how much money there is in bee-keeping, but how much real happiness can be extracted from his profession."

And from this point of view he thinks Mr. Byer is a rich man.

A sick man is in poor condition to extract happiness out of anything, and a man in perfect health is a good extractor of happiness almost anywhere. One strong point in favor of bee-keeping is that it is a healthy business. The bee-keeper is much of the time out in God's free air and sunshine, with the right kind of exercise to make his food taste good and digest readily.

Many a prosperous business man will tell you he is eagerly looking forward to the time when he can retire from business and enjoy life. Your true bee-keeper has no such feeling. He doesn't need to make his pile before he begins to enjoy life. He is enjoying life every day as he goes along.

The bee-keeper's life never becomes monotonous. There are always new things to try; always new problems to solve.

Bee-keeping is conducive to long life. I could probably have made more money in another line of business, but I would be dead now, and what's money to a dead man? Not only does bee-keeping lengthen a man's life, but it lengthens the span of his efficiency. In many lines of business a man is laid on the shelf when he reaches the age of 60; in some lines sooner. Age is not so much of a handicap in bee-keeping. The largest crop of honey I ever harvested was when I was 77 years old. In a good many lines, when a man no longer can work at full pressure, he must give up the business entirely. It's full work or nothing. If a bee-keeper at 60 can not keep as many bees as he could at 40, he can keep a less number, and a still less number at 70.

In not many lines of business does a man have the chance to be at home with his family so much as the bee-keeper. Perhaps that counts with me more than it otherwise would, because for a time I made my living as a traveling man. It could hardly be called living.

With the chance to get more happiness out of each day so long as my days last, and with the chance to have them last longer than in any other business, why shouldn't I be a bee-keeper? C. C. M.

MISCELLANEOUS NEWS ITEMS

Our Front-Page Pictures.—The 8 different views on our front-page this month are described as follows:

Nos. 1, 2, 5 and 6.—Apiary Views of John H. Bamberger

These views show my way of arranging colonies in summer and protecting them in winter, which has been satisfactory, as I have had no winter losses the past 2 winters. So far this winter I have no cause for complaint, as on Monday, Jan. 23, all but 3 out of 32 colonies were making good use of the beautiful day by taking a cleansing flight, carrying out dead bees, and causing my wife to sputter on account of their spotting her wash. The hives are spaced about 3 inches apart when packed for winter, leaving 8 inches on each end.

The sheds (No. 1) are portable, using hooks to fasten the parts to one another. They are 40 inches wide, 12 feet long, and 3 feet high in the front, and 2 feet high in the rear. They rest on pieces of 2x4 to keep the ends off of the ground. The packing used is planer shavings, and while it takes longer to pack and unpack them than it takes to carry them into the cellar and out again, the work is not as arduous, and it gives the pleasure of seeing the bees enjoying themselves when the weather permits, as it did Jan. 23.

The winter scene (No. 6) was taken Jan. 15, 1910, the camera 12 feet above the ground, and about 16 feet from the nearest shed, which gives a fair idea as to the depth of the snow last winter.

In the other picture (No. 2) I am "caught in the act" of clipping a queen, and it also shows my bee-dress to an advantage.

Freeport, Ill. JOHN H. BAMBERGER.

No. 3.—Apiary of A. S. Parson

This picture shows one of the apiaries of A. S. Parson, of Rocky Ford, Colo.

No. 7.—Premium Honey of J. C. Frank

This represents 1st Premium honey at the Kansas State Fair, shown by Mr. J. C. Frank, of Dodge City, Kan.

No. 8.—Apiary of A. L. Beaudin

Mr. Beaudin is a bee-keeper at St. Chrysostome, Quebec, Canada. In 1910, he increased from 180 colonies in the spring to 254 good colonies in the fall, and took 26,000 pounds of extracted honey. All his bees were in one apiary. He winters them in the cellar.

No. 4.—Apiary of H. N. Simmons, of Yuma, Ariz.

Among the numerous specialized industries which are taking root, and which promise a large measure of success on many of the irrigation projects of the Reclamation Service, is the production of honey.

During a recent trip covering nearly all the reclamation projects, the Statistician of the Reclamation Service at Washington, D. C., made an investigation of this industry. On a large number of the projects the apiaries were only just being established. Those that had been in operation a year or more almost without exception reported an abundance of pasturage for bees, favorable climatic conditions, and a very fine grade of honey, for which there was a good demand. The white sage honey was an especial favorite on the Coast.

As the cultivated acreage increases on the projects, adding large areas of alfalfa, orchards and small fruits, the pasturage will take care of more bees. Development of agriculture, of course, promotes the growth of towns and villages, and creates a home market. In most sections the supply has not kept up with the demand. By co-operation among apiarists to produce best grades, and to create new markets through intelligent advertising, bee-culture will become one of the most profitable industries in the once desert country. As everything in the arid country is tending toward specialization, the bee-men must get together on a plan similar to that now in operation among the fruit-growers, establishing high standards, and by rigid regulation insure the marketing under special label, of only first-class honey.

There is a wide field for the bee-man in the West, and nearly all of the projects of the Government offer opportunities which are worthy of consideration.

Honey East and West.—In the United States the large shipments of honey are mainly from the West to the East. In Canada the reverse obtains. At the Ontario convention, the president referred in his address, as reported in the Canadian Bee Journal, to the fact that the call for honey from the West was on the increase, being greater last year than ever before, one bee-keeper having received from one firm an order for 5 cars of honey, and that at good prices, and practically before the honey was produced.

A New Course in Bee-Keeping.—We learn that Syracuse University, Syracuse, N. Y., proposes to give a short course in bee-keeping during the coming spring. The University is now planning to add courses in agriculture to its present curriculum, and in the zoological department courses devoted to a study of the animals of interest to the farmer will be given. The course in apiculture will be one of the first opened to students.

For the first year the course will consist of only 4 or 5 lectures with demonstrations, which will probably be given by some of the leading bee-keepers of that part of New York. The University is admirably located to give such a course, for some of the best bee-keepers in the East are near enough to help. As the equipment is increased and the facilities for such work are improved the course will be lengthened. The department is very wise in making a small beginning, so that the course may be of the highest rank from the very first.

This is, as far as we know, the first time that any educational institution in the country outside of a State Agricultural College has attempted such a course. The bee-keepers of New York State are to be congratulated, and the University commended for this step. Without doubt the course will be of interest to many students, and it is hoped that the New York bee-keepers will materially support the effort.

Far Western Bee-Keeping.—This is the heading of a new department begun in this issue of the American Bee Journal, with Mr. Wesley Foster, of Boulder, Colo., as its conductor. This particular branch of the Foster family have been interested in bee-keeping for a long time, and their years of experience enable Wesley Foster to furnish matter of real value to bee-keepers. His own experience as a bee-keeper, and also honey-salesman, puts him in a position in which he can speak from both sides of the subject—the production of honey and also its disposal.

We are glad to be able to add so worthy a department editor to our columns. It is our aim to improve the old American Bee Journal from time to time, as the months come and go. We should be glad always to receive suggestions from any who think they might be able to make recommendations that would improve the contents of this Journal. We are here to serve the interest of its readers, and wish to give them just the special things that they would like most. The only way we can find out is to invite suggestions.

Falconer Western Branch.—The W. T. Falconer Mfg. Co., of Falconer, N. Y., have opened their Western Branch House on the 2d floor of the building at 117 N. Jefferson St., Chicago, Ill. They will carry a full line of their famous bee-supplies. They have been in the bee-supply business for over 30 years, so are well known, especially in the East. The Western bee-keepers will now have a good opportunity to become acquainted with their splendid line of bee-supplies.

National Convention Report.—A copy of the Report of the 41st meeting of the National Bee-Keepers, Association, held at Albany, N. Y., Oct. 12 and 13, 1910, is received at this office. It makes a pamphlet of 140 pages, and contains not only the full report of the last meeting of the Association, but also a financial statement, the Constitution and By-Laws, the work done by the General Manager in the interest of bee-keepers, and also a full list of the membership.

Surely this is a valuable pamphlet, and should be in the hands of every bee-keeper on this Continent. It is mailed free to every member. The National dues are $1.00. If any bee-keeper reading this notice is not a member, he or she should send $1.00 to General Manager N. E. France, Platteville, Wis., at once, and thus become a yearly member. The booklet alone is worth the $1.00, but there are other publications issued by the National Association which will also be mailed to new members on request to the General Manager.

Mr. G. C. Greiner, of La Salle, N. Y., on receipt of a copy of the National Report referred to above, says in a letter to this office:

> "The report of the National Bee-Keepers' Association received a day or two ago, is just the thing. I can have the convention over again at any time, all by myself; and the best part of it is, I can understand every word that is said."

Mr. W. H. Laws, of Beeville, Tex., has been selected a director of the National Bee-Keepers' Association, succeeding Udo Toepperwein, of San Antonio, Tex., who recently resigned. Vacancies in the Board of Directors are filled by the Executive Committee, composed of the President, Vice-President, Secretary, and General Manager, while vacancies in the Executive Committee are filled by the Board of Directors, composed of 12 men. In the first column of the second page of this number of the American Bee Journal will be found a complete list of the Officers and Board of Directors of the National Association.

Don't Give Up Your Bee-Papers.—Here are some wise words from Editor Hutchinson, in the Bee-Keepers' Review:

> At the end of the year some subscribers will drop their bee-journals. There are two reasons why I hate to see this done. One is the loss of the subscribers, and the other the subscribers' loss; and the latter is tenfold greater than the former. No man can know too much about his business. Success comes from knowing how; from doing things the right way. It is not the things we do without that help us to succeed, it's the things we *have* to work with; and to the bee-keeper no tool is more important than his bee-journal.

Michigan Foul Brood Law.—We have received the following very important notice from E. D. Townsend, president of the Michigan Bee-Keepers' Association:

> ATTENTION, MICHIGAN BEE-KEEPERS!
>
> At Grand Rapids last November, at our State meeting, a legislative committee was appointed to draft a new bee-disease bill for Michigan, and introduce it in the legislature now in session. At this date (Jan. 9th) a law is nearly ready to be introduced, and is along the line of the one proposed by Dr.

Phillips, of Washington, D. C. We are asking for considerably more money, and a privilege to appoint several inspectors instead of one, as our present law provides. There are but two or three months of the year really good to inspect bees for disease, and one man can do but little in this limited time. We ought to start 10 men out next spring, *and will*, providing we can get this law passed.

Hon. Geo. E. Hilton, representing the bee-keepers, will go to Lansing this month (January), and introduce the bill. Now, the object of writing this letter is, to ask every Michigan bee-keeper to write to *both* of his representatives, now in Lansing, to lend their support to this bill. If this is not done, we might as well do nothing, for already Gov. Osborn has sent a message to the legislature advising economy in all branches of the legislature, and it will be a hard pull at best to get the bill through. Remember, we are depending upon *you*, and you alone, brother bee-keepers of Michigan, to get this measure through, for it will be *hopeless* unless every one of us lends a helping hand and keep "dinging" at our representatives until they just have to vote for this bill to get rid of us. Let us all *remember our duty*.

Fraternally yours,
E. D. TOWNSEND.

The importance and urgency of this matter cannot be too strongly impressed upon the bee-keepers of Michigan. We hope that every one interested will write his representatives in Lansing *at once*. Delays are sometimes dangerous. *Do it now!*

..TER.—After the above was ready to be put in type, we received the following letter to Michigan bee-keepers:

I spent a portion of 3 days in Lansing last week, in perfecting the Foul Brood Bill, and arranging for its introduction, and believe we now have the best Foul Brood Bill yet framed; and the prospects for its passage, with the assistance of the bee-keepers of the State, are very flattering. The State Board of Agriculture are doing all they can to help in the matter, and we are indebted to Prof. Pettitt, our State Entomologist, for valuable advice and assistance.

The Advisory Committee that I asked for, and which was appointed at Grand Rapids, have all made suggestions that have been incorporated, as well as those from Dr. Phillips and Prof. Pettitt. Now if the bee-keepers of the State will write their Representatives and Senators at Lansing, urging their support of the measure, I am very sure the Governor will sign the Bill; I saw him while there, and shall see him again when I go again to talk with the committee to which the Bill will be referred.

Secretary Tyrrell will mail information and advice to the 4000 bee-keepers of Michigan, and I shall hope to see our Representatives at Lansing deluged with letters.

GEO. E. HILTON.

◆

W. Z. Hutchinson. Editor of the Bee-Keepers' Review, who has been sick for some time, and part of the time in the hospital, writing us Jan. 13, had this to say:

> "I am slowly improving, but am yet far from well; but it is a good thing to be able to be at home and look after business."

All will rejoice in Mr. Hutchinson's speedy and complete recovery.

◆

Illinois Bee-Keepers—Take Notice!—We have received the following report from the special legislative committee elected at the last meeting of the Illinois State Bee-Keepers' Association:

TO THE ILLINOIS BEE-KEEPERS.

The bee-keepers of the State are hereby notified that the committee of 10, elected in 1900 by the State Association, and the committee of 3, elected in 1910, at the annual meeting, for the purpose of securing legislation, have jointly and unanimously resolved to apply to the legislature for the foul brood law as published in the petition which has been signed by hundreds of bee-keepers. This is almost identical with the Wisconsin law. The only change which is expected to be made is a demand for an appropriation not to exceed $3000 for the State Bee-Keepers' Association, three-fourths of which is to be available for the extermination of foul brood.

The sum of $600 has been considered as altogether inadequate, owing to the alarming increase of foul brood in the State.

Bee-keepers all through the State are hereby requested to urge the passage of the law with their representatives and senators. Blank petitions (for signers) with the foul brood law will be forwarded promptly to all who will apply to the Secretary, Jas. A. Stone, Rt. 4, Springfield, Ill.

The Committee on Appropriations has just been announced in yesterday's paper (Jan. 18), and are as follows, giving last names only:

APPROPRIATION (HOUSE) COMMITTEE.

David E. Shanahan, Chicago, Chairman, from 9th District.

Smejkal,
Kirkpatrick,
Hamilton,
Lewis,
Terrill
Shepherd,
Tice,
Marcy,
Abbott,
Wright,
Cooley,
Tourtellott,
Leavitt,
Winthrop,
Anderson, of Cook,
Martin,
Mitchell
McLaughlin,
Wheelan,
Morris,
Gorman,
Fahy.

Dudgeon,
Campbell,
Pervier,
Ireland,
Erickson,
McNichols,
Butts,
Carter,
Bardwill,
Welborn,
Rawleigh,
Jones,
Mathis,
Simpson,
Atwood,
Alexander,
Wilson,
Bolin,
Donahue,
Rapp,
Dillon,

The committee especially urges all the bee-keepers living in the districts of the members of the above committee, that they inform their members of the nature and danger of foul brood, and of the importance of a law to exterminate the dread disease.

The bee keepers who are able to wield any influence at the State House, are requested to correspond with Secretary Stone, in order to join the forces for the occasion.

C. P. DADANT,
I. E. PYLES,
JAS. A. STONE,
Committee.

It seems almost unnecessary for us to urge the bee-keepers of Illinois to be prompt and active in this matter, as it is so important to every bee-keeper and to the life of bee-keeping in the whole State.

◆

A Bee-Paper Editor's Epitaph.—Editor Hutchinson, of the Bee-Keepers' Review, says this in closing a recent editorial item:

> "When I am dead and gone I wish to deserve the epitaph: 'He taught us to keep more bees.'"

It seems to us a better epitaph would be this: "He showed us how to produce more honey." One might "keep more bees" and not get more honey than from less bees. Honey is what bee-keepers want. However, every man to his own preference, whether it be "more bees" or "more honey."

◆

Eastern Illinois Convention.—The 3d annual meeting of the Eastern Illinois Bee-Keepers' Association will be held in Chartier's Hall, opposite First National Bank Bldg., St. Anne, Ill., Wednesday and Thursday, March 1 and 2, 1911. Among the topics to be discussed are the following:

"To Secure Big Crops of Honey," by W. W. Howard; "Cause and Cure of Foul Brood," by S. K. Pyles, H. Roorda, and I. Evers; "The Value of Sweet Clover," by George W. York; "Working with Bees Without Veil or Smoke," by H. S. Duby; "Advantage of Rearing Your Own Queens," by J. H. Roberts; "Honey and Pure Food," by J. T. Willis; "Why Do I Keep Bees?" by N. A. Timmons; "What Will the Honey-Bee Teach Us?" by P. St. John.

The Question-Box will also have a place in the program. If you have anything new or interesting to bee-keepers, please bring it to the meeting. The first session will begin at 10:30 a.m., March 1. All bee-keepers who are interested are invited to come.

St. Anne, Ill. H. S. DUBY, *Sec.*

◆

Ohio State Convention.—The Ohio State Bee-Keepers' Association will be held Feb. 16 and 17, 1911, at the Grand Hotel, 4th St. and Central Ave., Cincinnati, Ohio, in Halls No. 1 and No. 2. Mr. N. E. Shaw, chief inspector of bees of the State Department of Agriculture, will address the convention on "The Foul Brood Situation in Ohio." All bee-keepers should attend. Elaborate arrangements are being made to make this the largest assemblage of bee-keepers at any one place. Bee-keepers will do well to get together in clubs, and secure their railroad tickets at a discount.

J. H. MOORE, *Pres.*, Tiffin, Ohio.
HENRY REDDERT, *Sec.*,
2300 Schoedinger Ave.,
Cincinnati, Ohio.

◆

Northern Michigan Convention.—The Northern Michigan Bee-Keepers' Association will hold its annual meeting at Traverse City, Mich., March 15 and 16, 1911. A live program is in course of preparation, and liberal premiums will be offered for the products of the hive. Northern Michigan—the home of Michigan's most extensive bee-keepers—assures a most prosperous and successful meeting. The season of the year is most favorable, and the management look forward for the best attended meeting in years. Many prominent bee-keepers from this and other States are being invited. You are specially invited. Ask the secretary, Ira D. Bartlett, East Jordan, Mich., for a program, which will give place of meeting and other information.

E. D. TOWNSEND, *Pres.*
Remus, Mich.

◆

The Wisconsin State Convention—The Wisconsin Bee-Keepers' Association will meet at Madison, Feb. 23 and 24, 1911. Cash prizes of $5.00, $3.00, and $2.00 will be offered, respectively, for the best three papers written on topics of value to Wisconsin bee-keepers.

Prominent bee-keepers from abroad will also be present. All are invited. Admission free. GUS DITTMER, *Sec.*
Augusta, Wis.

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S. Minn. and W. Wis. Convention.—The Southern Minnesota and Western Wisconsin Bee-Keepers' Association will hold its annual convention Feb. 21 and 22, 1911, in the Winona County Court House, at which time an interesting program will be carried out. Those interested are welcome.

O. S. HOLLAND, *Sec.*
Winona, Minn.

FAR WESTERN BEE-KEEPING

Conducted by Wesley Foster, Boulder, Colo.

Companionable Bee-Folks

Mr. Eugene Secor tells us on the first page of the January issue that bee-keepers are the most companionable of folks; now I have found this true of most farmers and rural people generally, and it is especially true of bee-keepers.

The reasons for bee-men being companionable, I think, can partly be explained by the fact that bees appeal only to those who are lovers of the outdoors, flowers, and the sweet things that grow in gardens.

I suppose one reason why bee-keepers become so interested in their work is that there are so many novel and wonderful things in a hive of bees. The mighty stir that takes possession of the bees when the first pollen and honey begin to come in; the care the nurse-bees take of the brood; the swarming fever; the building of new comb and filling it with honey—all these things, in their various influences on the crop the bee-keeper will harvest, cause him to watch every detail closely, and he feels an interest in the procession of the seasons that makes him an interesting conversationalist in almost any company.

* * *

What We Know About Bees

Science has been called "classified knowledge," and this, I think, comes near enough being correct for our purposes here. So we should begin early in the year to determine what we know about bees and honey-production in our localities. If we know that our dozen or hundreds of hives are well supplied with winter stores, distributed around and above the brood-nest or "winter nest," we should be thankful. If our queens are all young and vigorous, able to pitch right in and do great things when the time comes, we should feel quite satisfied with our ability as bee-keepers. If our bees are well provided with shelter in their winter rest, either in the cellar, bunches, or on the summer stands, there is not much that can be done except watchfulness to see that everything goes right.

We know that bees eat less honey in the cellar than outside, and we know, here in the West, that in average years a colony will winter better outdoors than in a cellar. There are not always average years and I think this year is one that is not an average one, so we are wintering about 100 colonies in our cellar under the house. I wish we could get all of our bees into the cellar, but there is not room. The temperature ranges from 45 to 40 degrees, and the ventilation is good. The bees came out a little when any light could get in, but all the windows have been darkened now, and we do not look for any trouble for some time, anyway. We know that a colony of bees with 40 to 50 pounds of honey, a good queen, and a strong force of bees, can winter outdoors, but not more than one in ten of our colonies were in this condition last fall. Most of our bees that are weak and still on their summer stands, have been set together in bunches of 4—this is not any gerat help, but the warmth is conserved a little, as will be shown by the way the clusters move over close to the center of the bunch, as far as their hive will permit. Then, another thing, is the greater protection from the wind which blows off the hive covers so persistently.

I do not think I have enjoyed a finer climate than that which we have here in the Arid West, but the wind does blow here very hard at times during the winter; and these winds come right after a snow in the mountains, and so are a benefit by drifting it into ravines and gulches. Two weeks ago the wind blew for several days, and when we went out to one of our out yards there were 4 hives blown all to pieces from being rolled over and over, and the frames scattered and the bees blown to the four winds. Since bunching the hives together we have not had many covers blown off.

We know that a normal colony of bees in every way needs but little frame manipulation, but the question is, Do we know how to get all our colonies into this normal condition? We are all agreed that the queen is of prime importance, so if we get a strong, healthy queen introduced where a poor one had been, a betterment is effected. Now there may be too few bees to give that queen a proper opportunity to prove what she can do, so we know that by giving that queen combs of sealed or hatching brood she will soon have assistance.

Now as to what we know about the value of stimulative feeding, there is considerable question, for we are all agreed that a colony with a good queen, and plenty of bees and honey, will come up for the honey harvest with a good gathering force.

All who have kept bees for several years in the valleys of the West will agree with me, that we have to hold our bees back in the spring, for the weather becomes so warm at times in March and April that breeding commences, only to be chilled later by a return of winter in early May After May 10th, however, we may encourage breeding by spreading brood judiciously.

Another thing we know here in the West—though it does not occur in every part of the West—is this: that we do not have much trouble in preventing excessive swarming. In the 13 years of bee-keeping here in Colorado, there has been but one year when the swarming fever got beyond our control. Generally, by giving plenty of ventilation and super-room, and cutting queen-cells once, the bees give up the swarming notion and go to work in earnest. What still persist in building cells are divided, making two colonies out of one that was building cells.

If the time should come when by putting a handful of bees in a hive, and in a few weeks seeing this handful grow into a fine colony, we might have a return of the wild swarming-fever some people know.

We know that what makes swarm control easy here is the slow flow, rarely going above 5 pounds, and generally running about 3, if there is any flow at all. When more alfalfa was grown, and it was not cut so early, the bees would roll in 5 pounds a day right along for week after week, but that time has passed in many parts of the West.

At the Farmer's Congress held in Fort Collins, the fact was brought out that alfalfa was not making anywhere near the growth that it used to do when the country was young. Farmers have labored under the delusion that alfalfa built up the soil in all its needed plant-food, while the fact is that nitrogen is the only thing that is fixed in the soil, and every ton of hay hauled off the field takes off of that soil, phosphorus, potash, etc.,—plant-foods that have to be put back by artificial means, — spreading manure, etc. Farmers in the West have thought that their land could not be exhausted, but there is no land that will not give out if the plant-food is not put back, which has been taken off in crops. I would hazard a guess that we would have 100 percent better honey crops, and the farmers would, too, by studying and supplying a balanced ration for their alfalfa crop. Most of the Western soils have lime enough, but every farmer should know his own soil, its constituents, and the various requirements of different crops.

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Women in the National Association

In the list of members of the National Bee-Keepers' Association are found the names of 77 women. Of course that is by no means a fair index of the proportion of women that are interested in bee-keeping. Those 77 are merely a few of the sister bee-keepers where there is no man in the case, without reference to the thousands who give more or less aid and countenance to the lords of creation.

* * *

Uses of Vegetables, Fruits, and Honey

"The Ontario Government," says the *Canadian Bee Journal*, "has issued under the auspices of the Women's Institutes, Bulletin 184, which treats of the uses of vegetables, fruits, and honey." The part relating to honey is copied in the *Canadian Bee Journal*, and reads very much like a reprint of the honey leaflet written by Dr. Miller, of which so many thousand copies have been circulated. Such a Bulletin ought, to do good among our Northern sisters.

* * *

Bees Mixing Pollen

It is generally believed that when a bee starts out on a foraging trip, it works on only one kind of blossom during that trip. But there are exceptions. A writer, G. W. Bulman, is quoted in the *British Bee Journal*, who claims that not only are there exceptions, but bees are in the habit of changing frequently from one species of flower to another. One of the sisters, Annie D. Betts, thought this was an over-estimate, and made some investigations on her own account. During the course of the season, from March 4 to October 18, she examined no less than

1589 loads of pollen taken from bees as they entered the hives. It would not do to trust to the naked eye, for pollen of the same color may come from two different species, so each load was examined by the microscope. Think of the patience required to capture 1589 loads and examine them with the miscroscope! Her conclusion is that "even on the most liberal estimate, not one bee in 3 mixes her pollen at all, and not one bee in 10 mixes it to any appreciable extent (taking the years average)."

Even one in 10 is much beyond what ordinary observation would lead one to expect. It is not at all impossible that that all-prevailing factor, "locality," may have something to do in the case.

As to why bees work upon two kinds of flowers on the same trip, she says, "Are the constituents of a mixture usually derived from the flowers of similar color, or from nearly related plants, or from flowers which, though not necessarily nearly related, belong to the same flower-class?" Then after giving the result of a number of observations in this regard, she says, "Apparently, therefore, bees are not induced to change from one species to another by any kind of similarity between the flowers of the two plants. What does induce them to do so is pretty obvious: it is proximity."

It is greatly to be desired that this estimable lady would extend her observations to determine whether another factor may not greatly overshadow the one of proximity, and that factor is scarcity of pasturage. One might naturally suppose that when clover, for instance, is very abundant, a bee would work on nothing else. When it leaves a flower it often darts off several feet, even if it circles about and alights on another flower not a foot from the first. If a flower of another kind be within 6 inches, would the bee be likely to alight upon it if plenty of clover blossoms are to be found within a few feet? After observing thousands upon thousands of loads of pollen upon bees entering hives during many years of observation, Dr. Miller says he has never noticed a mixture of other pollen with clover pollen (although instances may have escaped his observation), but in a time of scarcity he has seen a bee going from one kind of blossom to another.

English Ladies and Retired Army Men as Bee-Keepers

J. Herrod, as a result of his experience as a traveling expert in various counties in England during the last 10 years, says in the *British Bee Journal:*

> I have no hesitation in saying that the cleanest and best-appointed apiaries I have visited were owned and managed by ladies and retired army officers.

Now which will feel most complimented, the ladies or the army men?

The Best Sugar for Man, and Its Cost

Under the above heading occurs in the *Practical Farmer* some excellent words of wisdom that the wives and mothers who look after the welfare of their families would do well to heed. They are written by T. B. Terry, a man given over to die by physicians, who went to work studying how to prolong his life to such good effect that he is to-day enjoying vigorous health, and through the press is helping thousands of others to live a healthier life. He says:

> One of our folks comes to us quite a little wrought up over the statement in his magazine that sugar is cow food. Well, that is just what it is really. Our sugar is made from the coarse sugar-beets and sugar-cane, is it not? And these are not natural foods for human beings, but are excellent for cows. Condensed sugar is one of man's devices. A too free use of it has caused an enormous amount of suffering, and has taken millions out of the world prematurely.
>
> Sugar, as God put it in the ripe fruits, is a perfect form of food for man. And one is not likely to eat too much, as the sugar is in such a diluted condition. And it is proper food for man, woman and child, not cow food. Fruit is natural food for human beings. These are statements that are absolutely true, beyond any controversy. The matter is so simple that a child can understand it. If you want sugar in the most perfect shape for mortals, just as the Creator arranged it for us, eat the sweet fruits; they are quite reasonable in price. If they do cost a little more than cane-sugar, remember the suffering, sickness and early deaths that this form of natural sugars will help to prevent.
>
> One can buy 12 pounds of fine seeded raisins for 98 cents; 25 pounds of the best seedless raisins for $1.83; the best Smyrna layer figs for 70 cents for a 5-pound box; the most delicious Smyrna pulled figs for 82 cents a 5-pound box. Prunes are a little higher this year, as the crop is short. We paid $2.68 for a 25-pound box of large, fancy ones raised in the famous Santa Clara Valley, Calif. All these fruits are heavily charged with sugar that is natural for man. Ripe bananas and most of our other fruits contain some sugar. But always remember that one should not eat sweet fruits unless they are craved, and the same of those containing acid.
>
> How to Eat Cane Sugar if You Must.
>
> Suppose one does not get much sugar in the best form; that is in fruits, fresh or dried, then what? Why, he may eat a little common sugar quite safely, say 2 ounces a day, more or less. And for best results it should be diluted, not eaten clear.
>
> Dr. Wallace, an eminent English physician, tells us it is a fact that cane-sugar in a clear form is likely to be digested slowly and to give rise to serious gastric irritation. So eat very moderately of concentrated sugar, and see that what you do eat is diluted.
>
> To illustrate; I use a little cane-sugar in my wheat drink. A teaspoonful in a cupful is thoroughly diluted. The experiments made in the German army prove conclusively that a free use of clear sugar is injurious. Of course, some can eat more sugar than others can, and serious results are not likely to come suddenly. But Nature has a way of never forgetting to punish when her laws are violated. There will be digestive disturbances after a time, and eventually sugar diabetes, perhaps, or some other serious ill. It is my opinion that trouble comes from the concentrated form of our common sugar, molasses and maple syrup, and hence our eating too much of it, and perhaps eating it clear, than it does from the eating of sugar made from cow food under proper restrictions.

There is value in such counsel; but it seems amazing that a man of Mr. Terry's intelligence, in considering the best sugar for man and its cost, should utterly ignore the fact that there is in existence something that contains sugar in the very best form for man, a "natural food," "just as the Creator arranged it for us," in the most delicious form, and at much less cost than it can be obtained in dried fruits he mentions. Surely he can not think that the sugar in raisins, figs, and prunes is in any better form for ready assimilation than the sugar in *honey*.

Then the matter of cost. If Mr. Terry takes the same pains to get bargains in honey that he does in dried fruits, he will be able to get delicious extracted honey at 10 cents a pound. His dried fruits cost from 7 to 16 cents a pound, and when you come to consider the sugar that is in them it is pretty safe to say that a pound of sugar in dried fruits will cost several times as much as a pound of sugar in honey.

To be sure, there are other matters in dried fruits, and to some extent this is true of honey. But in any case, whether it be that enough sugar can not be found in dried fruits, or whether the cost be too great, when he comes to consider "if you must" eat sugar, instead of practically saying, "Try not to go beyond 2 ounces a day," why does he not advise to have at least a part of that 2 ounces in honey?

Instead of using common sugar in his wheat drink, if Mr. Terry would try a mild-flavored honey, he might prolong his life just a little longer.

A National Honey-Brand

> If we had a "National" brand for our honey, we as members of the National Association would have a strong shoulder to lean against, and therefore a substantial backing. A member would not dare, nor even have the inclination, in fact, to put up something not pure, and brand it with the National brand. On the other hand, no one would question the absolute purity of an article under such brand.
>
> In the second place, more bee-keepers would rally around the National banner so as to be entitled to use the brand and its protection, thereby making the National Bee Keepers' Association that much the stronger and that much wider known, so that there would be more demand for pure honey.
>
> Since the pure food and drug law has been in force, all bogus preparations that did not go out of business have boldly advertised their stuff under various names; and if it pays to advertise trash, why should it not pay us to advertise our pure goods with a brand that is synonymous with strict honesty? Among those benefited by this measure would be the National Association, the bee-keepers as a body and individually, the grocers and consumers, and only the glucose-manufacturers would suffer.—Mrs. M. E. Pruitt, in *Gleanings in Bee Culture.*

Upon this Editor Root comments as follows:

> For a number of years the General Manager of the National Association has given to members a label bearing the National seal to use on honey, so that the buyer may at least know that such honey is absolutely pure. If the word "brand" were used, or if the honey were advertised as the "National brand," would it not be a suggestion of manufactured goods? Furthermore, unless such honey were put up by a central packing force at the National Association headquarters, say, it would vary considerably in flavor. One "brand" of honey should be the same the country over.

While there may be objections to the plan proposed by Mrs. Pruitt, yet it is not the easiest thing to see just how the best success can be had without something of the kind. It is greatly to be desired that the ball set rolling by Editor York, in his annual address at the National convention at Albany, shall not stop rolling until something really practical comes to pass. It is all well enough to talk about raising a big sum of money for a campaign of publicity, but that has been tried in the past to a sufficient extent to show that there is enough selfishness left in the heart of the average bee-keeper to prevent him from putting money into something that will bring just as much benefit to all his bee-keeping neighbors as it will to himself. Offer some plan by which he will see that those who put up the money are going to get the chief benefit from it, and there ought not to be such a very great deal of trouble to find enough to enter the scheme.

Only a Fourth of a Crop

Dear Miss Wilson:—We had only one-fourth of a honey crop the past year. I fed the bees in spring and all fall, and got them in good condition for winter. I am hoping for a better season in 1911.

Catharine Wainwright.

Tilton, Iowa, Dec. 30.

CANADIAN BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Distinguishing Names for Foul Brood

MR. J. L. BYER:—I have just been reading your report of the Ontario convention in the American Bee Journal, and feel like bringing up again the matter of names of bee-diseases.

I do not know exactly what motive some may have had in fighting the accepted names for the two contagious diseases which we have in Ontario, and I do not believe it has ever occurred to *you* that unless we call a disease "*Foul* Brood," we have no legislation against it. Our law refers to "*Foul* Brood." "Black Brood" does not come under that head, so whoever insists on continuing to use the name "Black Brood" will only make trouble for us in handling the disease situation in Ontario. I know *you* at least have no desire to do that. Don't you think it would be better if we dropped out that word "Black Brood" entirely?" There is no use trying to give the disease a descriptive name, because if we attempted that in this case, there are a number of other things we might call it which would not look well in print. The term "European Foul Brood" is pretty generally accepted, especially by the scientists from whom we have the best definite work. It brings the disease under our present legislation, and does not need to confuse any one, if those who have the ear of the public, as men like you have, will carefully stick to the accepted terms.

If I am wide of the mark in this I hope you will correct me for the good of the industry.

Yours very truly.
MORLEY PETTIT.

After having so positively stated not so long ago in this department, that all future references to the disease in question would be referred to as "Black Brood," in so far as I was concerned, some may wonder at my giving Mr. Pettit's letter to the public. Quite a long time ago, I was taught that a bad resolution was better broken than kept, and I confess that after reading very carefully what Mr. Pettit has to say on the question of names of brood-diseases here in Ontario, to be about convinced that the resolution I made on the matter belongs to the "bad" class this time.

Our laws in Ontario certainly refer to "the disease called Foul Brood," and clearly we have no power under our present Act to handle anything that is not known by that name. In other words suppose I was sent to an apiary and an examination should show the disease under discussion to be present. If I said the bees had "Black Brood," and the man was a crank, and acquainted with the Foul Brood Act, he might tell me that I had no power to order him to destroy or attend to the bees in some other way, whereas the name of "European Foul Brood," as adopted by the scientists, would leave no such loop-hole for evading the law.

My only object for using the term "Black Brood," was because of a desire to avoid confusion, and also for the sake of brevity. Dear me, the inspectors certainly have difficulties enough already to contend with, without having some more added to them, so I now pass my word that this scribbler shall not knowingly be a party towards stirring up more trouble.

* * *

Honey On Breakfast Foods

Some time ago, I believe it was in the November issue, the Editor said something about using honey on breakfast foods instead of sugar. I might say that in our home honey is used regularly, and the writer must prove guilty to setting the example for the other members of the family!

But, say, honey is good with almost any kind of food, if you once form a taste for such compounds. Some weeks ago I happened to be taking dinner with a good friend of mine, Mr. Arthur Quantz, and after some rather fat pork had been served out, I was surprised to see him cover his slice with honey about a quarter of an inch thick. I laughingly asked him if he made a practise of using honey in that way, and he answered that he always uses honey on meat, especially if it is fat. He further said that it was *real* good, and insisted on me trying some, too.

Not to be "bluffed," I tried the mixture, and while I could eat it all right, I had to confess that it would take "practise" to teach me to prefer the mixture instead of taking each article of food separately. However, many use molasses with their meat, I am told, and for tastes of that nature I see no reason why honey would not do as well as, or better than, the molasses.

I might say that in the case of honey with cereals, we are very liberal with the honey, and believe it to be more healthful than sugar. Just a few mornings ago, I recall having heard "Edwin" remark to one of his sisters, that he noticed she was having a little porridge with her honey, and I am afraid the same remark could quite often be applied with justice towards the writer of these notes, as well.

Just a word here as to the relative value of comb and extracted honey for table use. As I have often intimated in the past, we have produced very little comb honey. Last season, however, we had some very nice comb honey, and enough was saved for home use whenever it would be wanted. I am rather surprised to say that in our family the comb honey is not wanted at all, and a section will stand on the table while at least 2 pounds of the extracted will be used. We happen to be using something extra in the way of extracted honey, so perhaps that will explain the difference in choice. However, I can not help wondering whether many families who never try extracted honey, might, after all, be much like our family in the matter of taste, if they once get started to use real, good, well-ripened extracted honey.

* * *

Temperature for Bees in Winter

On page 20, "Subscriber," who has his bees under a barn, need not alarm himself if I understand the situation correctly. Even if there are a lot of dead bees on the floor, that is but natural in a fall like the last one, when no flight was possible for a month before the bees went in the cellar. He says the cellar is dry, and that the bees are quiet. That's good enough, so don't bother trying to put on supers of chaff, or in any other way disturb the bees, and I have an idea that they will come out all right.

As to 37 degrees being too low by 7, for good wintering, I am not so sure about that. If any one wishes, I could take him to a cellar about 4 miles away from here, where the constant aim is to keep the thermometer at as near 35 degrees as possible.

Just a few moments ago, I called up Mr. Davison, the bee-keeper in question, over the phone, and asked him what his cellar was registering today. He replied "35," stating that in order to keep it as low as that it was necessary to have a window open all the time. Of course, towards spring it is impossible to keep the temperature that low, but during the cold weather it is always kept there. Mr. Davison is one of our most successful bee-winterers, and every spring it is my privilege to see his bees—both those wintered in the cellar and those left on the summer stands—150 colonies in all. One year with another, I doubt if bees are brought through in better condition by any other man in America, and when asked what he thinks about the orthodox figure of 45 degrees for cellar wintering, he invariably answers, "All bosh." I do not profess to know much about the question, but facts certainly have a loud voice, and in this case there is no disputing the figures. The cellar is under the living room, and from all appearances it seems to be real dry; more than that, I can give no particulars, except to say that aside from the open window there is no attempt at ventilation in any way.

* * *

Wild Mustard or Charlock

If I am not mistaken in the matter, "Illinois" refers to the wild mustard, or charlock, on page 20, where he is answered by Dr. Miller. If that is the plant he refers to, I can tell him that it is quite a heavy yielder in hot, sultry weather, and that the honey is slightly amber, with a pungent taste, especially when first gathered. With us it always goes with the clover honey and usually does little harm. Some years, though, when it yields extra well, or for some reason the clover is not yielding, it then imparts to our honey a slightly sharp flavor, said honey having a tendency to smart in the throat after eating, especially if much is partaken of. As a rule, it comes in about a week ahead of the clover, and in such cases has a very beneficent effect on the colonies.

If the mustard is late in blooming, and the alsike is full of honey, as a rule the mustard is not visited much by the bees.

* * *

Putting Bees Into the Cellar

In my last batch of notes, we said something about getting "stung" in the matter of putting bees into the cellar last fall. I had almost decided to say nothing more about the matter, when on page 22 I happened to notice what Mr. Doolittle says about taking the hives into the cellar covered with snow. That settled it, for now I would be free from all reproach on my part for, couldn't I say, "Well, Doolittle was just as bad?"

The 65 colonies to be wintered in a cellar were taken away from the home yard about the last of October and never a chance of flight had they for a long time —in fact, I begin to despair of them getting a flight at all. Now half of those colonies were nuclei formed late in August, and fed steadily till the middle of October, and I know there was a lot of young bees that had never had a flight. Well, they were left out in the hope of having a flight before going in the cellar, and by mere chance, on November 26th, the sun came out so that they had a nice flight. They were in a very sheltered position with high evergreens nearly all around them, and while they had a nice flight, yet bees in packed cases in the other yards hardly got warmed up. The hives were well spotted up, showing that the bees had indeed needed the flight, and now if they had been put right in the cellar all would have been well.

However, the next day my time was occupied, and the *next*—it started to rain in torrents, then froze and formed sleet, and my, what a mess the hives were in, with ice all over them! I decided to wait a few days, and see if it would not show a bit, but never a thaw showed up, and after waiting until December 4th, and finding the thermometer at zero, I put the bees into the cellar. Yes, it was a *nice* job, as all who have ever had the experience will vouch for, but under the circumstances it was the best we could do. The hives were all tilted well forward, and that night the furnace room was left open, so that the heat could go among them.

Three days afterward I was in the cellar and found the hives all nice and dry. What the outcome will be remains to be seen, but from all appearances the bees seem all right yet. If I had only been able to put the bees into the cellar the day after the flight, how nice it would have been; but, then, you see, I didn't do it, so that alters the question.

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

A Season's Work in the Apiaries

Since we have been at most of our yards the past month to give the first and preliminary examination of the colonies, we have found that our care to have all the colonies with more than a sufficient amount of stores in the fall, for the winter, has paid us well. It has paid us well in that the result is strong, healthy and vigorous colonies of bees that will soon be in the very best condition for the honey-flow at any time that it may come. It has paid us well, also, because we will not have to resort to any of the more or less messy feeding to save our colonies, the result of which in the end generally is that even with the best of care in feeding, the colonies do not come out as well as those that did not need the attention. It has paid us well, also, because we have not had to worry about the fact that the bees were short of stores, and that they might starve in case a severe spell of weather might set in before we could attend to them. It is bad policy to "rob" the stores too closely in the fall, and generally results in a lot of sleepless nights for the keeper, if not worse results than that.

Finding the bees in such shape it did not take long to equalize the stores of the few that were not in the best shape by giving to the light ones from the very heavy. Out of 22 apiaries there was only one where the stores were very short, but this was due to the fact that the help in the fall overestimated the light fall flow from which the bees were to rear their winter's stores.

OVERHAULING THE OLD SUPPLIES.

The trips to the apiaries were taken on the very nice days when it "was a pity to stay indoors," and it made us feel a good deal better when we did have to stay in when the weather was bad, knowing that the bees were now in fine shape for the rest of the early spring. During unfavorable weather the workshop had much in store for us. The old supers and all kinds of hive-parts, frames, bottoms and covers, and a hundred other things were thoroughly overhauled, and "made practically as good as new." This is another thing that pays. The work-shop and the honey-house also were given a thorough "spring cleaning." Now all these things are out of the way and in fine shape for the work to follow.

PUTTING UP THE NEW GOODS.

Our carload of new supplies has arrived also. We mentioned these in our last article and are glad, indeed, that we ordered our supplies early. Our order was filled immediately at the factory because they were not overrun as they will be later, and as there was not such a rush in getting out orders there was no delay in the shipment arriving here in due time. Now we are putting in all of our spare time nailing up 3000 supers and several hundred bottom-boards and covers, besides a lot of other new goods that will be needed later. It is a pleasure to have these standing in readiness, and we are not afraid of losing any possible honey-flow that might come at any unexpected time. It pays to have our tubs ready, as the saying goes.

OUR COVERS AND BOTTOMS.

We go to our lumber yard and procure as many pieces of 1x8 inches by 16 feet clear lumber as we will need for the required number of bottoms and covers to be made. For the covers we will place 5 or 6 of the boards, one on top of another, on 2 saw-horses as evenly as we can. Then we clamp them together with several screw clamps so they will not shift about. We then mark the whole lot into 2-foot lengths, square them off and saw the whole 5 or 6 boards at one time. This is a great labor-saving method that we have practiced for many years. Next we cut the bottom-boards into 21-inch lengths in the same way.

For the end cleats of both bottoms and covers we take 1x12 inches, by 16 feet soft lumber, and proceed with the manifold process of cutting the boards, 5 or 6 at a time, into 16-inch lengths, or just the width of the 10-frame hive, or whatever length is used. These short pieces are then taken to a saw-mill or a planing-mill, where they are ripped into cleats 1⅞ inches wide. At the same time we take enough plain battens, which are ⅜x2½ inches by 16 feet, out of which we get the cleats for the bottom-boards upon which the hives rest. For the back cleats these are cut in the same wholesale fashion, by clamping a bundle of 5 or more together, into 16-inch lengths. The side strips are 19⅛ inches. These pieces are then ripped into 3 equal widths at the saw-mill, which makes them just right in width after they are sawed.

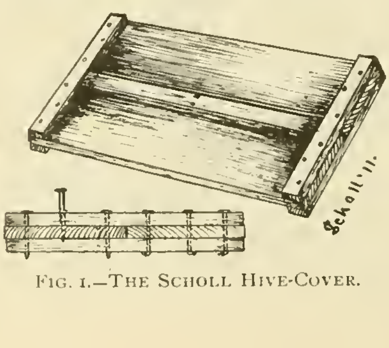


FIG. 1.—THE SCHOLL HIVE-COVER.

TO PUT THEM TOGETHER.

By referring to the illustrations you will understand how the cover is put together by observing Fig. 1. Two of the 2-foot or 1x8x24-inch pieces are placed side by side with 2 of the 16-inch cleats at each end, as shown. These are nailed together by long, slim 10 D wire-nails, which reach through all three thicknesses of the wood, and then are clinched underneath. This makes the cover so that there is no possible chance for warping. Over the middle of the cover is nailed a a strip of what is known as O G batten, which completes the cover for painting. Three good coats of paint are then applied, and this makes a cover that will outlast any other we have tried. Besides, they are cheaper in first cost. They are also heavy enough so that it is never necessary to put unsightly stones on the hives to hold them down.

The bottom-boards are made in much the same way, only that one cleat is nailed at each end with 6 D wire-nails as shown in Fig 2. Then the strips ripped out of the battens are nailed on for the hive to rest on. This is easily made, and when well painted outlasts others that we have used. Its much more cheap construction also is an important item with us in making our bottoms and covers ourselves.

Be it remembered, however, that although we make these we do not believe in going farther than that, and therefore we order all our other hive-parts, bodies, supers and frames, from the very best factories. This insures us accurately made hives, which is of the utmost importance. These can not be made by hand, nor with inadequate machinery.

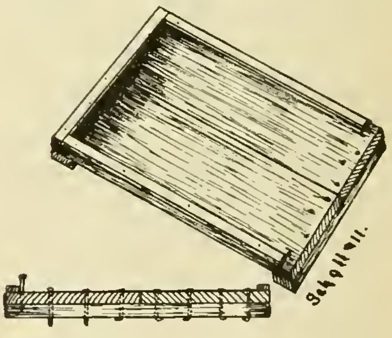


FIG. 2.—THE SCHOLL HIVE-BOTTOM.

THE WORK ON NICE, SUNNY DAYS.

Whenever we have some of those beautiful days when we would like to enjoy a long drive into the country, we go to some of our apiaries that need certain attention. Thus we are enabled to keep up with our bees while we are preparing everything in the shop, and enjoying ourselves all the while at no extra expense. Nor do we lose any time by this arrangement, for we can go out and have a picnic while we are going to attend to some of the apiaries miles away from home. And it is this that makes bee-keeping both profitable and pleasant. Bee-keeping for pleasure as well as for profit sounds good, and if one can make it so, why should he not?

* * *

Bulk Comb Honey and Granulation

Several times I have been asked the question as to what course was taken to prevent the granulation of bulk comb honey which it must surely do since extracted honey granulates so rapidly. And since this is a question of vast importance, especially in the more Northern latitudes, or in some portions where honey granulates much faster than in others, I have decided to write on this subject in this issue.

When the producer of bulk comb honey ships his honey he virtually gives with it a guarantee that the honey will not granulate or candy within 30 days. This guarantee is not necessarily written, but implied, for the reason that this has become a custom that is expected to be understood by all producers as well as honey-buyers alike. When the buyer orders honey he expects that the producer will adhere to this understanding—that the honey will not candy or granulate, or "turn to sugar," as it is most commonly expressed, and this is so well understood here in Texas that it is a rule that is strictly adhered to by every reliable producer. And to be on the safe side he *must* do so, for if his honey reaches its destination in the granulated condition, it may be refused by the consignee. Or, if it granulates so soon after receipt that he is not able to dispose of it before it granulates, there may be complaint, and the customer is lost.

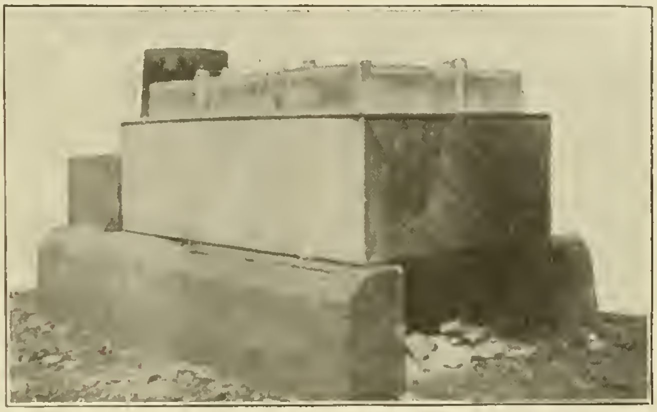
Some honey granulates much more readily than others, and unless the producer is very sure that the honey he is shipping out will not granulate within the specified time, he would resort to heating the extracted honey before sending it out and taking chances. This is not always necessary, since there are times when we are not required to heat any of our honey, but it is shipped the entire season without granulating for several months after it is packed. Then there are certain kinds of honey that never need heating to prevent the granulating of it for the season in which it is sold. In other cases, again, honey that does not generally granulate very readily does do so during certain seasons when the conditions are favorable for it. This must then be watched for to prevent trouble, but since this is seldom, it can be easily overcome.

But there are kinds of honey in some localities that granulate very readily as soon as extracted, although the honey remains liquid in the comb. In this case all the extracted honey must first be heated. For this work we have a specially arranged furnace and heating vat, by which a good deal of honey can be heated during a short time. This is shown in the picture herewith. The furnace is easily constructed out of 6 concrete blocks which are nothing but regular building blocks laid on the level ground as seen. On the rear end is placed a very large block through which there is a large elongated hole, as is found in such large concrete building blocks. Over the hole is set a 5-gallon lard-can or a 60-pound honey-can will also do, with the bottom of the can removed, of course. This is for the chimney. The whole is very easily and cheaply constructed, and serves our purpose admirably.

The large vat shown is large enough to hold 6 sixty-pound cans of honey at a time. These rest on a frame-work of wood cleated together so the cans do not touch the bottom of the vat. When the cans set in the vat, and it is filled with water, it does not take long to heat the honey to approximately 152 degrees, Fahr., which I believe to be the best temperature to which to heat the average honey. Although some honey can stand more than that, it affects the taste of some of the milder-flavored honeys. Care should therefore be taken not to heat the honey too much and spoil both its color and flavor.

This extracted honey is then poured over the comb honey which is already packed in the proper cans, while it is still very warm, and thus the whole will keep liquid a long time. It is understood that the honey in the comb does not granulate for a long time, and therefore it is only necessary to heat the extracted honey that is poured over it. In this way I have very little trouble about granulated bulk comb honey, and I am sure that the same principle applied in the more Northern latitudes would make bulk comb honey production quite as profitable as it is here.

In this connection it might be well to say that some of our Southwest Texas honey granulates as soon as it is thrown out of the combs a few days. Sometimes it does this so rapidly that when the extracting crew leave their work on Saturday, and resume it on the following Monday, they find the honey in the extractor and other vessels granulating very much.



Scholl's Honey-Melting Stove and Vat.

But this fact does not prevent the production of bulk honey since the heating method is used in such cases.

By a little careful watchfulness of this matter of the granulation of the honey that goes into the production of bulk comb honey, knowing when to heat your honey so that it reaches the market in good shape and remains so long enough until it is used up, there will be no trouble. We have just as much to fear from this question in some parts of the extreme South as those located farther North, as honey granulates rapidly, but by using the necessary precautions at the right times, we are not troubled about the matter. That is one reason why I have not hesitated about advocating the production of bulk comb honey for the North. However, it should be understood that it would be unwise to put up very large quantities of it at one time before there is a sale for it—a thing that we do not practice here.

CONTRIBUTED ARTICLES ~

Facts and Suggestions for Honey-Shippers

BY HILDRETH & SEGELKEN.

Decreasing Demand for Buckwheat and Mixed Comb Honey.

For the past few years we have experienced a decided falling off in the demand for the above grades of comb honey; last year, in particular, and this season still more so. We are unable to account for this, unless it is that the prices have been too high for the average purchaser—merchant as well as consumer—as we do not believe that the production has increased to any extent from former years.

For the sale of buckwheat comb honey we have to depend upon certain territories. Many markets do not want it.

We were compelled, this season, to turn down some of our old shippers who expected that we would buy their crop, as we did in former years, and they were very much surprised when we would not even encourage shipment of their honey on consignment, as we were heavily stocked and would not have been able to render them account of sales in reasonable time, and certainly not at prices they might have anticipated.

All that is left for us to do is to dispose of this honey at best prices obtainable instead of carrying it indefinitely, or holding it over for next season, which we consider poor policy, as buckwheat honey is apt to granulate, and in this case would not be worth more than the extracted.

We have certainly no desire to try to discourage the producers, but we must reckon with facts as they exist, and *our advice* to New York and Pennsylvania bee-keepers is, to produce *extracted* buckwheat instead of *comb*. The extracted will always find a market at at least fair value; and, moreover, and most important of all, can be carried over until another season without depreciation in value.

No. I White Comb Honey (So-called.)

We say "so-called," as altogether too much honey is marketed under this grade that never should be sent to a large city market, or, in fact, to any market. It seems to be the general idea, even with some of our prominent bee-keepers, that any old thing will go as No. 2. In numerous instances bee-keepers will glass these sections, which are from half to two-thirds filled. This makes it all the harder to dispose of such honey. If these sections were not glassed, they would be more readily sold than with the glass on both sides, as customers do not care to buy a lot of empty cells, glass and wood. Sections not more than half filled, in some cases the one side of the comb nothing but empty cells; fancy white in color, amber, mixed, all kinds in one case. There is no satisfaction in handling such honey, and we can not see where the satisfaction comes in, to the shipper, when he gets final returns.

Do not send such honey to market; sell it at home, if possible, or extract it.

Comb Honey in Carriers.

This is the *only way* to ship comb honey, and we most emphatically advise the use of them unless in large quantities, where the producer can load the honey himself in a through car to destination.

Where comb honey is shipped in smaller lots, say from 25 up to 200 or 300 cases, it should always be packed in carriers; it is immaterial whether the distance it has to go is short or long, whether in a through car or otherwise. In almost every lot where honey is shipped in the original small cases, we find some of it broken down. Honey packed in carriers, with hay or straw on the bottom, with handles extending from both ends, invariably arrives in good condition.

We prefer to receive all honey in carriers, whether unglassed sections, glassed, or in cartons. The extra cost of the carrier should not be considered, and will be more than offset by not running any risk of breakage.

Shipping-cases holding 24 or 25 combs, should be packed 8 cases to a carrier, and those holding 20 combs, 9 or 10 cases to a carrier. The net weight and grade should be marked plainly on top of carrier, so that the honey may be reshipped without opening or disturbing the carrier.

Late Shipping—Same Old Story

Comb honey *can not* be sent to market too early. Too many producers seem to neglect this very important fact.

We had numerous orders cancelled the past season because the honey which we had bought did not arrive in time, and we could not make delivery. In the future, where we buy a crop of comb honey, we shall insist upon delivery at a fixed date. This late shipping could be avoided, if bee-keepers would order their supplies in time. Late shippers must take the consequences of slow sales and declining market. In all our experience we have never known of a single instance where a bee-keeper made any gain by holding back his comb honey.

New York, N. Y.

Moving Bees a Short Distance

BY C. P. DADANT.

"I have to move some colonies of bees a short distance. I am at liberty to select the most suitable time for this. At what time of the year would I best do it?"—Illinois.

Moving bees may be done at any time of the year if the proper requirements are complied with. When the young bee takes its first flight it circles about the hive carefully, turning its head towards it, so as to take note of the exact spot. The action of the young bees when first emerging from the hive resembles that of robber-bees that wish to make note of the spot, so as to come back for more spoils. The only difference is that the young bee is much more composed in its flight. But the purpose is the same. They wish to be able to come back to this identical spot. The exact location seems so well printed in their memory, that if you move the hive but a foot or so they will be likely to alight nearer to the edge than the center of the entrance, in the direction from which the hive has been moved. However, if the ground is absolutely clean around the hive, the distinguishing signs being absent, there will be less hesitancy in alighting in front of it, even if it has been moved several feet. That bees do make mistakes is clearly seen when colonies of different colored bees are in close proximity to each other. These mistakes are usually made only after the first two or three flights, and not later in life. Yet even old field-bees may be made to enter the wrong hive by covering their own home with some obstruction.

Knowing all these things, we must compel our bees to take notice of a change of location, when they leave the hive for the first time after a change has been made. This may be done in a variety of ways, but the cheapest and most practical is to place a shade-board in front of the entrance in such a way that the worker-bee is compelled to go around it in taking flight, instead of starting out in a "bee-line," as she usually does. If the worker starts out and does not notice the change of location until it is 10 or 12 feet from the entrance, there will be danger of its being unable to find the hive again, especially if there are other hives in close proximity.

A very good method, in spring and fall, to call our bees' attention to a change of location, is to confine them to the hive by closing the entrance during the night, and waiting to release them until some time after daylight, when they have become impatient at their confinement. If a little smoke is used to release them, when they tumultuously rush out, there will be no danger of stings, yet the unusual condition of this temporary confinement will be sufficient to cause them to look about them, and there will be no loss. Should a large number of bees get lost from the new location, through some mismanagement or accident, and return to the old spot, a very simple method of saving them is to give them a comb of brood in an empty hive at the old spot. When evening comes the lost bees thus gathered should be carried back to the new location. They are then so glad to find their old home and their mother that not one of them is caught again at the old place. They act exactly as do bees that have swarmed—they reconnoiter before they leave on their next field excursion.

I said at the beginning of this article that bees might be moved at any time, but there are times when I would prefer to do it—spring and early fall. In spring many young bees are hatching daily, and these all have to learn the location. The old bees are getting less numerous every day, and a less number will get lost, of course, than at any other date. It must not be done too early in the spring, because if a great many of the active workers were to be lost, it might endanger the life of the colony. I would not transport the hives in summer to new locations, unless compelled to do so by necessity, because the hives are very heavy, the bees can not be confined safely for any length of time, owing to the heat, and the working field-bees are more numerous at that time than any other.

I would not move bees in late fall or winter, if I can help it, because there are often times when the weather is just mild enough for the bees to fly, but not enough to allow them to take a long flight without being chilled. When the hive has been moved there is more hesitancy in the flight of the bees, more time is required to take note of the surroundings, and there is more chance of the insect being chilled and lost.

These are general rules, not to be taken too literally, for exceptions will often occur. For instance, if you happen to move your bees on a cold winter day, and take every precaution that they may notice the change of location, you may have a bright, warm day for their first flight. In that case you will achieve success. We can only speak of general circumstances and possibilities.

Moving a colony of bees only a few feet on short notice, when they are able to fly, I would close the hive the previous evening, wait until the day is sufficiently warm, give them a smoking and general shake-up so as to make them fully aware of trouble brewing, then release them, placing an obstruction in front of the entrance for the entire day. This will usually succeed in saving all the bees, and if a few go back the suggestion I have given above for gathering them and returning them to the brood-chamber in the evening will make everything safe.

It is usual to say that the bees that have been confined to the cellar for the winter do not remember their location of the previous fall. I think this is probably the rule. But I know positively of one instance when they did remember it, and a number of bees returned to the old location. This was perhaps an exceptional instance. It is usually safe to make the change at that time.

When moving bees long distances, when they have to be confined for the space of a day or more, there is no danger worth mentioning of their getting lost, for they have been fully aware of a change of conditions.

Hamilton, Ill.

No. 5.—Points on Selling Honey

BY WESLEY FOSTER.

So many ways of making a success of selling one's honey crop have come under my observation that I am almost persuaded that any method will bring success if the man who produces and sells the honey is of the right sort. And of course the honey will be right if the producer is up-to-date in his methods.

But there is one method that seems to meet with more failure than any other, and that is selling through commission men. Probably not over one commission house out of ten handle honey in an intelligent manner, and they are never able to sell it for as high a figure for this reason. After they have had the honey for a while they sell it for 10 to 20 percent under the market in order to get rid of it. I am speaking now of the commission men who are honest in their transactions, but who have so many different things to handle and focus their attention on these that the honey does not get the attention it would have from a house that made honey its specialty.

I know an old man in Denver who makes his living selling honey in pails to the men in the office-buildings—he is not a bee-keeper, either. Then here in Boulder, a fruit-man and gardener who has nothing much to do in the winter months but sell his butter and eggs, sells honey for me. He canvasses every house in Boulder, and gets around about every 6 weeks. It is work that he can do when the weather is good, and he can stay in when it is not fit. He does not make more than $2.00 a day on the average when working, but he has his horse to feed anyway, and he can sell his butter and eggs at the best of prices, for he can have the pick of his honey-customers to whom to sell the butter and eggs, and so he gets a somewhat higher price than the market. By calling from house to house, you see that he is cultivating every possible honey-customer, and it has a mighty effect on the amount of honey sold in Boulder, I can assure you.

This same man canvassed the town last winter, and when he started in last fall many a lady would remark with pleasure that her "honey-man" had come around again. Grocers might think that this would limit their sales, but I think it has stimulated them, for I have been selling honey wholesale to the grocers also, and I know that the grocers have no cause for complaint as to the amount of honey they are selling.

Here is some of my experience on a two-days' trip I made recently:

A Bee-Keepers' Selling Trip.

The price that the bee-keeper gets for his honey from the commission house is from 10 to 20 percent less than the price the retail grocer pays the commission house.

"Commission House" is now almost a misnomer, as few consignments are received or desired by the commission men. They tell me that more can be made by paying cash for produce, and the producer is better satisfied. In other words, the producer is getting less for his product, but he has the money in hand, and is saved the anxiety of waiting and not knowing what he will receive for the consignment.

With the knowledge that the price the grocer pays is 10 to 20 percent higher than what the commission house would pay me, and the belief that I would sell honey to the grocers in near-by towns as well as, if not better than the commission-house road-salesmen, I decided to make a trial trip. The towns selected range from 3000 to 10,000 in population, and I visited 4, covering a distance of 70 miles from home. These towns are all in bee-territory, but the crop this year was an entire failure, so that there was a good demand for honey, the market having been developed in previous years.

The first town with 3000 to 4000 people has 8 stores; these I called on. The first store was one of the largest, and I sold 4 cases of light-weight No. 2 honey at $3.00 per case of 24 sections, and 4 cases of No. 1 comb honey at $3.75 per case.

The next store had already bought a good supply which had been shipped in from a distance.

My next sale was to a large grocery which had some comb and extracted honey, but they took 4 cases—2 of No. 2, and 2 of No. 1 comb honey.

Next I sold one case of No. 1 and 2 dozen pints of extracted at $2.70 per dozen.

My last sale was for one case of No. 1 comb, and 24 half-pints at $3.30 per case, or $1.65 per dozen.

I had counted on making a sale to the largest store which I called on last, but they had bought heavily at a distance, and I missed a sale. So my sales were 4 in number out of 8, and amounted to $60.45, or $11.50 more than I would have received had I sold to commission houses. I yet had half a day, so I took the train for the next town of about 3000 inhabitants. Here I made 3 sales—2 of $12 each, and one of $14.40, making my day's work foot up $98.85, or $18.94 above what I could have possibly received from a jobber or commission man.

I reached 2 towns the next day, and made 2 sales in one and 4 in the other; these orders amounted to $74, and figured up $11.10 above what I could have received from a jobber. So my 2 days' work brought me $172.85 in orders, and $30.04 above commission-house possibilities. My expenses were $5.10 for car-fare and hotel bill. I was gone from home one night, and had a pleasant trip; made the acquaintance of about 30 grocers, and made 14 sales, with good possibilities of more. I gave 30 days' time, though some remitted before the month was up, and I have collected every bill. I looked up the credit of each one before shipping the honey, so that I was safe. The credit ratings can not always be relied on, and one should size up the stock and the man, and also go to one of the banks and inquire. I have received valuable "tips" on a man's standing in this way, though several times I found out that the bank had an account against the party, and gave a good report in hopes that they could get their money.

The two important matters to be considered in this private salesmanship are, therefore, due care and deliberation over credit ratings; and watchful guard over the shipments. All comb honey shipments should be packed in straw and carrier crates.

One month after making this trip I went over the same ground, and found about half of those that I had sold to were already sold out, and I got orders from these, together with several from those who had quite a stock on hand the month before. My last trip was not quite so successful as the first, but I secured $135 in orders, and when I figured out the prices the Denver commission houses would pay, I found that I was ahead a little over $23. My expenses were just about the same as the first trip around—close to $5.00. So that I was $18 better off than if the honey had gone through the regular channels.

I can not help thinking that it would pay many a bee-keeper to look into the honey consuming possibilities of his immediate territory. If things go well close to home, may be you could go farther away, and make the difference between what the consumer pays and you receive, materially less.

We individual bee-keepers can keep working away at getting a fairer share of the consumer's dollar through some of the methods that I have mentioned, and when the time comes that the National Association gets organized for handling our honey on as economical and efficient a basis as some more local associations do, there will be some well-cultivated territory that will help the National to make a success of marketing right from the start.

Boulder, Colo.

Will Bees Cure Foul Brood Themselves?

BY HENRY STEWART.

I would like to review Mr. C. P. Dadant's article on page 379 (1910). I take his criticism and note of warning to bee-keepers perfectly good-natured, and believe him sincere, but just a little over-conservative.

In writing these articles, I did not base my authority upon what some good authors have said, or upon one success, or one failure, but I had this system in operation on quite a large scale for 5 years before I gave it to the public, and was absolutely positive of my position.

Mr. Dadant produces a lot of evidence to show that I am incorrect upon the basal principle of my treatment, that bees can and do clean out American foul brood. He starts in with the broad assertion of Dr. E. F. Phillips, that the bees have no power of removing the ropy matter or the tightly-glued down scales, without tearing down the wax-walls. He drops a notch with Mr. N. E. France, who, by the use of formaldehyde, succeeded in having foul-broody combs containing no honey or pollen cleaned up by the bees, and in having healthy brood reared in them. He cuts another slice off his argument by quoting Bertrand, who (because he is a careful bee-keeper and uses a disinfectant) destroys but few combs (and

I take it, regardless of whether they contain honey or not).

There is only the short step of leaving off the disinfectant and our results are identical, as my bees remove the ropy matter as well as the scales, and seldom if ever tear the cell-walls down to accomplish it.

Mr. Dadant says it is not to be doubted that bees do clean out some foul brood. If they can, and do, clean out some, it should not be a great stretch of the imagination to believe that they can, and will, clean out all foul brood if the proper conditions are met with.

He quotes Fred A. Parker as authority for one case where the disease disappeared of its own accord. This is a very frequent occurrence. During the fall flow of August and September I inspect all my bees, and mark each colony where foul brood exists, and unless the conditions are favorable for immediate treatment, these cases go over until all brood-rearing ceases, about Nov. 1, when the marked colonies are shaken on to clean combs of honey; and it frequently occurs that in several of these marked colonies no trace of the disease can be found.

For years we have heard of those who by the use of formaldehyde and other disinfectants have succeeded in getting foul-broody combs cleaned up, while other good authorities claim that no disinfectant practical to use can be relied upon to kill the germs of foul brood. Who knows but what the disinfectant has been merely a stepping stone to give the bees a chance, and those who met the natural requirements succeeded, and those who did not failed? This looks like a very natural solution, which I believe to be true.

I believe Mr. Dadant's position is faulty, and is condemned by his own arguments.

Good judgment is a very large feature with any method, but in this it is not the expert, but the bees, that do the work. There is a very large percentage of bee-keepers who are not a success with curing the disease by any method, but any one who can acquire success with the McEvoy treatment should succeed with mine.

Now, to illustrate my confidence in the permanent cure, and my lack of dread of the disease, I will state that at the last extracting last fall, the extracting combs of 3 yards (something like 3000 in number, several hundred of which have at some time in the last 5 years contained foul brood) were placed out-of-doors, and the bees held high carnival in cleaning them up.

Now I am perfectly willing that bee-keepers shall take Mr. Dadant's advice, and go slow, but before consigning my method to the junk-pile, just do a little experimenting on your own account, and see if there isn't something in it for you, and I am sure that the wheels of progress will neither be stopped nor checked thereby, but ere long will assume a whirr of success not to be attained by the method of destruction so gallantly defended by Mr. Dadant.

Prophetstown, Ill.

T. S. Hall, a well-known queen-breeder, has moved from Jasper, Ga., to Talking Rock, Ga.

Feeding Bees in the Spring

BY LOUIS MACEY.

With all that has been said against spring feeding of bees, I have had some experience that clearly points out some facts on the other side of the question, and facts are stubborn things to deal with. I think there are some who, on the strength of the way *they* can fall feed in *their locality*, enough to last till the abundant fruit-bloom, they have come on to stimulate brood-rearing. I say I *think* some of these men make a mistake in trying to lay it down as a general rule that spring feeding should be avoided.

Now, in *my location*, we have a honey (sweet clover) that is very bad to granulate, and one of the first things you will see the bees doing in the spring is just to roll out lots and lots of this hard, granulated honey. I have always read that if they have access to plenty of water they will dissolve and use this, but the fact in my case is, that my bees are abundantly supplied with water, and yet they carry out the solid granules right along.

Some one will say: "Extract your sweet clover honey and feed sugar syrup." I am not sure that would be any better; sugar inclines to granulate, too, and *the honey is not all*. Our winters here are generally very dry, and the changes of temperature are rapid, frequent, and often very considerable. The bright sunny days often run the mercury up to 80 or 90 degrees about 2 p.m., *yet it always freezes every night*, so this dryness of the atmosphere and great change from day to night temperature is enough to granulate *any* honey; and not only does it granulate, but granulates *hard*.

And now as to the danger of robbing: I know a *careless* person spilling syrup around can soon start an awful uproar in the spring, but let it come a heavy dew or light sprinkle of rain on this granulated honey the *bees* have scattered, and there is sometimes an even "wusser" one. The worst case of robbing I ever had was started in just this way; so if the wind doesn't blow it off the alighting-board, I brush it off myself.

Of course, the honey does not *all* granulate, and the bees can live off the liquid part, but by May what is left of it seems to be rather poor stuff to "stimulate" on.

I notice a good many now are proclaiming that sugar syrup (being destitute of pollen-grains) is poor stuff for brood-rearing, and I rather believe that myself, but *is it any better from having been in the hive all winter?* And as sugar is surely safe to winter on, does it not follow that when we so use it we must spring feed if we don't rear brood on sugar? For my part, I would rather stimulate brood-rearing with fresh syrup in the spring than to take chances on solid granulated sugar from the fall before, and so far I have fed some every spring, and have let some colonies (and the ones having the most old stores) go without feeding, and in *every* instance the spring-fed colonies boomed ahead and did the best. Did I uncap some of the old stores in the unfed colonies? I did, and generally had to brush off a table-spoonful of granulated honey from the alighting-board after each time I did so.

Often in the spring clean-up (which I do after Dr. Miller's plan) I find a pound or so of hard honey-granules on the bottom-board, and before I learned to look out for it, I had 2 colonies die in April, and on opening the hive I found as much as 8 or 10 pounds of very dry appearing granulated honey still in the hive. Some of the cells (a good many of them) were uncapped and partly emptied—sometimes just a start made—and I could hold up such a comb and *just shake out the sugar*. Did the bees *starve?* Does any one else have such an experience? Is it common to this Great Plain Region, where climatic conditions are similar, and sweet clover abundant? It seems to me it would be so, but I have never heard of any one saying so.

One thing, dandelion and willow generally help us out some, and as I said before, where fruit-bloom is abundant they can make it through to that on the old stores, even if they are granulated; but where there is no fruit-bloom, or the early flowers fail to yield, or feeze back as they sometimes do, there is only one thing to do (no matter how heavy the hives are), and that is to feed. As the weather gets warmer the bees are probably able to liquefy and use the granulated honey—*all of it*—instead of being forced to kick out all the solid parts to get a little liquid early in the season.

I may be wrong in some of my conclusions, but I think I have the main facts "on straight" *for my locality*.

This year my hives are full of Spanish-needle honey. As the bees have been getting frequent flights, I am not *much* afraid of dysentery, and I don't think it will granulate so badly. If it does, I have quite a lot saved up in a warm room to stimulate with in the spring. Cellar-wintering would probably solve the problem (or would it?), but very few bees are cellared here. The sunny warm days, giving a chance for frequent flights, are very favorable for outdoor wintering even if the bees do eat more.

I have fed under the cluster, at one side (division-board feeder), and above, and I find they will take it from a "pepper-box" over the cluster when it is so cool they wouldn't touch the division-board feeder.

I used something in this connection I have never seen described anywhere, or as used by any one else. With a division-board feeder I spread a newspaper, 4 or 5 thicknesses, over the top of the hive to hold all the heat down where it is needed in the brood-chamber, and it also holds the *bees* down when I go to fill the feeder. I press down on the paper with my fingers till I locate the "feel" of the feeder, then with my knife I cut an X right over it, then put on a super to hold the papers down, then stick a small funnel in the X in the paper and pour in a pint every day. No trouble at all. With the pepper-box feeder I use the paper just the same, only I cut a hole so as to come just over the cluster, and make it a trifle smaller than the feeder—4 short pieces of lath are placed next to the edges of this hole on the underside of the paper, and the paper tacked fast to hem. The feeder being inverted over he hole in the paper, the blocks around he edges hold it up a bee-space off the op-bars so the bees can get at all the perforations instead of just those that happen to come between the top-bars. The important point, however, is that the feeder and the paper hold all the heat down where it is needed, and the bees don't have to keep the super warm. If the blocks are fitted up to one another, the bees won't gnaw the paper, and none can get up to crawl over the feeder (and zip up on to the him who feeds!); tip the pepper-box, puff down some smoke, take it off and put a full one on, are all very little trouble.

North Platte, Nebr.

Let-Alone Plan of Stimulating Bees in Spring

BY F. H. CYRENIUS.

For a great many years many bee-keepers have advised some form of spring stimulating, and I have practiced it for many years myself. Of late years, however, I have abandoned the plan, believing it does more harm than good, especially in early spring. If the bees at this time have plenty of honey they will have all the brood they can care for.

Now, to stimulate means more activity; they are induced to fly more in cold, windy weather, when they would be better off in the hive.

There is no question but there are times when it will pay to stimulate. Just before fruit-bloom would be as early as I would think advisable, and just after fruit-bloom we can not afford to allow any colonies to get low on stores, and stimulating at just this time until June 10th would result in profit.

Where a fall flow is expected, stimulating from July 10th or 15th to Aug. 1st, would be a profitable investment. As a rule, the bees that have an abundance of honey will outstrip the so-called stimulated colony every time.

It must also be remembered that the bees are at the height of breeding, they consume their stores very fast, and the first we know they are curtailing breeding because their stores are being exhausted. Keep them booming until the flow comes, then the less egg-laying the more honey.

Oswego, N. Y.

Bees Covered With Snow in Winter

BY G. M. DOOLITTLE.

"I have moved to a new location. Near the house is a low piece of ground which I am told fills with snow every winter, and stays thus till the elms and soft maple bloom. Would this not be a good place to put my bees for winter? Why would it not be as good as a cellar? A reply through the American Bee Journal would oblige."—A CORRESPONDENT.

Occasionally, down through the 40 odd years of my bee-keeping life, this subject has been brought up through the bee-papers and at conventions, not a few arguing in favor of wintering bees under the snow, and some have even advocated putting up a partial wind-break, so that the hives containing bees might be drifted under, such claiming that the more snow over the hives the better; but after my many experiences along this line, I can not help but think, for Central New York, at least, this is a mistaken idea.

My experience has been, where hives are covered with snow, the bees inhabiting them did not winter well. In fact, I am led to believe that the bees do not come out nearly so well in spring where the hives are thus covered as they do where there is no snow about any part of the hive during the whole winter. But where the snow can come up to the top of the brood-chamber, and no higher, it may possibly be a little help during a long cold spell, where the mercury stays below zero for several weeks at a time; but even then I would about as soon risk their safe wintering with no snow about them.

For the first few winters after commencing to keep bees, I wintered all I had in the cellar under the house, as the man from whom I bought my first 2 colonies wintered his bees in this way. As there was only a small cellar under the house, and this mostly occupied with vegetables and things needed by the average family, it became crowded as the bees increased, so I decided to winter on the summer stands thereafter, all that the cellar would not hold.

During the winter, when the first "overflow" were left out, I became acquainted with a man who had lately moved about 10 miles away from me, and upon going to his bee-yard I found his hives nearly covered with snow which lay up around them in little heaps, so that the hives and snow made little cone-like pyramids all through the yard. Upon asking, he told me that he swept the snow up about each hive every time there was a snow-fall, till he had them covered nearly to the top, as I saw them, but after the top was nearly reached he allowed them to remain, as he wished the cracks about the top of the hive left open so as to carry off the moisture which came from the bees up through the packing he had over them into the outside air, so the packing and the bees would be kept dry.

I asked him if this sweeping of snow about the hives was not a job to be dreaded. He said, "No, it is good exercise for a bee-keeper during winter, and much cheaper than to build a cellar purposely for the bees." I was quite taken with the idea, and as we soon had a heavy fall of snow, I went to sweeping, and in a week or so had the hives on the summer stands nearly covered from sight. Even now, by memory, I can see those pyramids of white snow all over that part of the apiary where bees were left, which made a picturesque view that was quite enchanting.

At the end of a few weeks there came a thaw, and when I went out to look at the hives I found that the warmth from the bees had so thawed the snow about the brood-chamber that a small dog could go all around between the hives and the snow. To say I was pleased would hardly express my delight, and it appeared that this was a much more preferable way to winter bees than even the cellar. But a few minutes later I had my doubts in the matter, for upon examination I found that the bees were very uneasy, so much so that they were ready to fly out and perish on the snow as soon as one corner of the quilt under the packing was raised a little, instead of being quiet, as all bees are when wintered well, when it is not warm enough for them to fly.

After this we had very little snow the rest of the winter, and when spring had fairly opened, I had only three-fifths alive of those left out, and these colonies which were alive were very weak in bees. But I thought that, had the snow continued all winter the loss would not have occurred, and so the next winter found me anxious to try the matter again, which I did to its fullest extent, as we had snow so the hives were kept covered from the middle of December to nearly April. After the snow went off I found I had few bees left, as the most of the colonies were dead, and the few colonies that were left were very weak in bees, with the combs foul with excrement and nearly destitute of honey, so I had nearly a total loss except the hives and combs. Since then I have never again swept snow around the hives, but at different times had colonies drifted under so that the hives were out of sight for a month or two, and at all such times more or less injury to the colonies proved to be the case.

In one case (the winter of our deep snow with extreme high winds), there was snow to the depth of from 5 to 8 feet over some of the hives, so that I lost track of a few of them altogether. Of these colonies, not a single one was alive on the first day of May.

The difficulty seems to be, in this locality, that as soon as the hives are covered with snow the pure air is cut off to a certain extent, which combined with the warmth from the ground, the snow not allowing that and the warmth from the bees to escape, bring about conditions so unusual that the bees become uneasy, breaking the cluster which otherwise would remain compact, go to breeding, consume an undue amount of stores, and die of diarrhea and exhausted vitality before any of the brood, or a sufficient amount of the same, emerges from the cells to take the place of the old bees which are prematurely dying off under these conditions. In some of these hives nearly a quart of fuzzy young bees, together with the queen, were found dead in a cluster together, thus showing that they did not have the vigor to carry on things in cold weather that they do in the summer season.

For these reasons I would advise all who are not sure of their ground, to go slow about putting bees where they are liable to be covered with snow for any great length of time, until they *know* what the result will be in their locality. Some tell me that they succeed admirably in thus wintering, and I am bound to believe them. Therefore, to know what the results will be with any particular individual, and in any particular locality, without any great loss, I would try 2 or 3 colonies for a winter or two. If they winter well you can safely try more; otherwise you might be obliged to chronicle the loss of nearly the whole apiary.

Few or Many Colonies—A Reply to Dr. Miller

BY L. S. CRAWSHAW.

I have read your editorial in the September (1910) issue of the American Bee Journal (page 278), and I see that you have therein set me a congenial task in somewhat uncongenial phraseology. For just what sort of a fight you are spoiling, or under what rules, is not quite clear, as balancing an aggressive chip on your shoulder you throw out to me a public challenge to take you and "gibbet" you forthwith. May I point out, however, that it is not usual for the challenger to choose the weapons, and you will, I think, permit me the usual courtesies of duel, the more readily as you have seen fit so kindly to appreciate the lighter fare which I am only able to provide for my opponents and my friends.

Coffee and Biscuits.

For I myself am in some sort your debtor, having partaken freely, from time to time, of the good things which you set before your guests, and I can not therefore but respect your wishes, ill-chosen though I may consider the suggested weapons of your after-dinner challenge. So, willingly though I would cross swords with you in friendly bout, I have no desire to gibbet you, or to see you hanged, otherwise than upon my study wall, were the happy means at my disposal. Indeed, I find myself partially disarmed, and in curious agreement with the spirit of your criticism, although I may be able to make apparent some literal difference in our points of view, if I take your comments *seriatim*.

Colony or Hive.

You first question my use of the term "hive," where the intention is clearly that of colony. I should have expected you to welcome the terser term, but as you do not, will kindly refer to your respected Webster, where you will find full authority for this particular use. The ancient derivation of the word implies a family or colony, and you will find Shakespeare cited as using it in the sense you question. So that I am content to refer "too common error" to these gentlemen.

Outrunning Powers.

If I grant that "the beginner's enjoyment has principal reference to the future," that must be because it is such an excellent argument for the reasonable prolongation of his pleasure of anticipation! But I have no desire to detract from his present pleasure by warnings as to the future, only rather to say to him, "My young friend, make the most of the present joy, and if you must build castles, build them either lightly in the air, or solidly upon a sound foundation of experience." Not, be it understood, "Do not build," but count the cost of building. Whether or no, I have seen so many cases where a bee-keeper has outrun his powers and become slack, even occasionally a menace to others, that I believe my warning to be, in part at least, well founded. Bad seasons have come, and the labor and expense of autumn feeding have been either begrudged or delayed with the usual results. Disease has perhaps crept in, and Disease and Inexperience are a fell pair to run in double harness, whilst Discouragement—their careless foal—listlessly ruins some fair garden. So that, for the happiness of the bee-keeper it is well that plans should not be allowed to outrun powers. For the possession of bee-fever does not necessarily imply either understanding or ability, and though these may exist, the requisite time, or even the necessary appliances, may be inadquately available. I notice that you specify sufficient leisure, but this is surely to plow crosswise with my postulatory heifer. As who should say, he has the time, ability, and inclination, so how can he outrun his powers!

Amateur or Professional.

My warning is, however, essentially intended to apply to the beginner, fascinated by his new hobby. And I speak of hobbies as I have known them. Nothing is too good for the hobby lover, the true amateur as such, whereas it is too often the case that a hobby, turned into a business, loses some of its charm. Happy and successful is that man whose business and hobby remain one. Just where the line between amateur and professional lies in our craft, it is difficult to say, unless a very hard and fast line be drawn. I do not think it lies between "1000 and 5000 pounds." But my critic appears to lose sight of the trend of my perhaps rather loosely constructed paragraph, when he speaks of fewer colonies or more help. That is essentially an argument which must apply to the professional, and not to the amateur, whose delight in his hobby can not be obtained by proxy. And I do not address the professional, who may be supposed to have discovered for himself his powers or his limitations.

Locality.

Whether a difference be admitted or not in the point of view, professional or amateur, from which we discuss this subject, something may be conceded to locality, that apparently potent source of bee-men's difference. Conditions in the Motherland may not be quite the same as in the United States. Here we have lecturers, who preach, both in and out of season, the advantages to be derived from the pursuit of bee-keeping. And one result of their (in my opinion) too often ill-judged assurance of profits to all and sundry, is the creation of a number of bee-owners who are not best fitted to pursue the craft to any length.

Again, bee-keeping as taught and practiced here, is apparently a more complicated business than your own. This may be mainly due to our much shorter and more precarious honey season. Exceptions in the form of good seed and sheep locations occur, no doubt, but the text upon which you base your critical sermon, may reach many other districts where bee-keeping on a large scale is not possible.

My Own Experience.

You ask especially after this, and I may tell you that until the past 2½ years (when I left the parental roof to set up a home of my own, and to be rewarded a few days ago by such another "Brighteyes" as "Uncle Amos" used to tell about) I lived in a district where a surplus was hardly possible at all. The only honey obtainable was that of early spring from the trees—mainly a green and unattractive honey from the sycamores—and an occasional autumn flow from the ling or common heather, only to be secured by a wagon journey over the rough roads of half a mountain or moor. To obtain the first, considerable care or skill was necessary, and the flow was by no means certain. And to obtain the second, three conditions were essential: Good weather, a plant-yield, and considerable strength of stock already provided with worked out sections. In my particular district, it was rarely, perhaps once in 7 years, that these conditions obtained coincidentally. Worked sections were difficult to obtain, as there was no clover to build up the colonies, and often when all was otherwise favorable for the later flow, the conditions of the summer had already rendered it useless. When I say that I have kept all my early enthusiasms through such conditions, you will perhaps understand that I have known and overcome at least some difficulties.

Tons of Honey.

Ah! dear critic, that is not "fighting fair." To set my mouth a-watering at the thought of those snowy sections, and then to call a fresh tune because I can no longer whistle my own. It is as though one showed cut lemons to a German band, and then dealt blame because the music was too liquid. But I will confess that I, too, share the pleasures of anticipation with the veriest beginner, and yet I look forward to the day when I shall work from dawn to eve in a city of myriad wings. How I should like to share with you the joy of knowing that the best had come. Some day, some day, perhaps! But, with other burdens to carry, the apicultural hill is a long one, and the climbing weeds out the unfit, just as upon any other ladder of life. How few there be who have attained the top. Those who have done so may retain their old-time interest, and the key to their happiness lies, not in the business *per se*, but in its entire suitability to their particular temperament. These giants are, therefore, not entirely qualified to judge the failures to be, nor is it reasonable to expect that the pigmies shall be able to stride along in their seven-league boots.

THE ORIGINAL POSITION.

And it is to make clear to the tyro, that happiness lies within himself, and not necessarily in greatness of possessions, that I still cry my cry. I would particularly direct your notice to that word "necessarily" in my original argument, for bee-hives—I beg your pardon—colonies of bees, are very much like other possessions, and multiplicity of cattle, or dollars, or houses, or wives, does not, I believe, "necessarily" bring increase of true happiness or peace of mind even to the wisest, or the most understanding of men. I do not speak of all these things from "my own experience," so that I am quite open to be further corrected by my good critic, should he desire to exgibbet his powers! He has, however, already properly appreciated my prime intention, as he echoes the oft uttered and wisely endorsed warning to beginners, "Not to outrun their powers."

Norton, Malton, England.

Webster is not the only dictionary which supports the use of the word "hive" as representing the little folk that dwell in the hive. But the dictionaries can only make record of what is customary, and sometimes what is customary is not the very best. Although referred to Messrs. Webster and Shakespeare, any plea I can make to them will hardly avail. Language, however, is always more or less in a formative stage; and I take it that every man who uses a language has a little influence in deciding how that language shall be used, however infinitesmal that little may be. So I make my appeal to you, Brother Crawshaw, as one having more than the average influence in deciding what names things shall have in the realm of bee-keeping, to do your part toward helping to avoid the confusion that arises from having too many different things for the same name, and too many different names for the same thing.

It will, no doubt, be generally agreed that the word "hive" is entirely appropriate as the name of the structure in which a colony of bees dwells, and it will save confusion if the word is always used among bee-keepers with that one meaning, just as it will save confusion if we avoid calling a colony a stock, a stand, or a swarm. If a man writes asking what it will cost him to buy "one or two hives," I will have no difficulty in making some kind of an answer, provided the word "hive" be always and only used to mean the dwelling that a colony inhabits. But if it be used also to mean what is in the hive, then my brain is sadly puzzled to know which meaning is intended. Such puzzling of the brain is not conducive to longevity. I'd like to live as long as possible; so I appeal to you for help in that direction by using your influence in the interest of simplicity and clearness.

As for the rest, any difference of opinion between us may be due to our different standpoints. No hurry about deciding; I am quite willing to wait until you can view the matter from the standpoint of one who counts his colonies by the hundred; and if you then say that your enjoyment has decreased with the increase of numbers, I shall cheerfully agree that I was mistaken—in you.

C. C. M.

Bee Journal "Good as Ever"

Dear Bro. York:—In looking over the last number (November) of the American Bee Journal, I could not help talking to myself what an interesting and valuable number it was. When you first changed from a weekly to a monthly, I felt a bit disappointed, but of late I am reconciled and think the American Bee Journal is as good as ever.

Eugene Secor.

Forest City, Iowa, Dec. 6.

Wanted.—Thousands of both new and renewal subscriptions for the American Bee Journal during the present or 51st year. Why not each present regular subscriber send in one or two new subscriptions during the next 30 days?

CONVENTION PROCEEDINGS

The Michigan State Convention

The 46th annual convention of the Michigan Bee-Keepers' Association was held in Grand Rapids, Nov. 9-10, 1910.

Were you there? Well, wasn't it one of "the conventions?" Not a dull minute during the whole session. And then look at the attendance—nearly 100 live bee-keepers present, and among them some of the "big guns," too. Missed it if you weren't there.

The first session began at 1:15 p.m., with Pres. Aspinwall in the chair. The meeting was opened with prayer, and "America" sung by all present.

A committee on resolutions was appointed, after which the Secretary gave his financial report, and also a verbal report of the work done the past year; 121 members being reported in good standing, located in 14 States.

Dr. E. F. Phillips, of Washington, D. C., gave an interesting and instructive address on the question of Foul Brood, and what Uncle Sam is doing to help bee-keepers. He reported American foul brood in 35 counties of Lower Michigan, and European foul brood in 8. The Department at Washington has nearly 4000 names of Michigan bee-keepers. These names have all been compiled during the past year. The census taken 18 years ago gave 18,000 bee-keepers in the State. Dr. Phillips estimated that there are 9000 bee-keepers in the State whose bees need inspection; and that 75 percent of all the bees in Michigan are in reach of foul brood. These figures, while startling, are important in showing the true condition of the disease. The Secretary was instructed to prosecute a campaign along the lines suggested by Dr. Phillips.

An advisory committee of three was appointed to work and advise with Hon. Geo. E. Hilton, who is to represent us before the next Legislature. This committee is J. E. Morse, E. D. Townsend, and E. M. Hunt. Prof. R. H. Pettitt, of the Michigan Agricultural College, and Hon. Geo. E. Hilton, were made ex-officio members of the committee.

Hon. Colon C. Little, State Dairy and Food Inspector, was present and added some valuable suggestions regarding the work of inspection of bees.

The election of officers resulted as follows: President, E. D. Townsend, of Remus; Vice-President, L. A. Aspinwall, of Jackson; and Secretary-Treasurer, E. B. Tyrrell, of Detroit.

The evening session began at 7:15 o'clock. H. C. Ahlers, of Wisconsin, gave a very interesting address on "A Mail Order Honey Trade." This was followed by an interesting address on "Uniform Sections and Shipping-Cases," by Hon. Geo. E. Hilton. Both addresses brought out lively discussions.

By request, George W. York gave part of his Annual Address as President of the "National," which he delivered at Albany. This brought out the following motion, which was adopted:

"Moved and seconded that it be the sense of this Association, and that we recommend other State Associations to become a Division or State Branch of the National Association as soon as the necessary plans be perfected."

The Thursday morning session began at 9 a.m., with the report of the judges on exhibits as follows:

Best 10 Sections of Comb Honey—1st, Oscar Smith; 2d, A. Coppin, of Illinois; 3d, W. E. Forbes

Best 10 Jars of Extracted Honey—1st, H. A. Rushton; 2d, S Coulthard; 3d, Frank Rasmussen.

Best 3 Sections of White Comb Honey—1st C. S. Foote; 2d, Oscar Smith; 3d, Wesley Noggle.

Cleanest Sample of 10 Pounds of Beeswax—1st, S. Coulthard; 2d, Frank Rasmussen; 3d, H. A. Rushton.

Sweepstakes—H. A. Rushton.

Judges—E. D. Townsend, Mrs. S. Wilber Frey, and George W. York.

After this report on exhibits, the following addresses were given, each bringing out its particular discussion, and all interesting and instructive: "The Aspinwall Hive," by L. A. Aspinwall; "The Pearce Method of Bee-Keeping," by J. A. Pearce; "The Uncapping Machine," by E. D. Townsend; "Developing a Home Market," by W. S. Frazeur, Sr. Jenner E. Morse also added to the last subject.

The members were asked what smoker they use, and why, and what uncapping-knife they use, and why. The discussion this brought out would have been interesting to manufacturers. Several uncapping-knives were exhibited, some of them rather aged.

Saginaw was selected as the next place of meeting. Invitations were presented from Saginaw and Detroit.

A number of resolutions were adopted, thanking various persons and institutions for their assistance in making the convention the splendid success that it was. The members appeared to be well pleased with the interest the United States Government is taking in bee-culture, and the assistance it is giving in the fight against foul brood.

The convention adjourned at 3 p.m., Thursday, Nov. 10th.

Detroit, Mich. E. B. TYRRELL, *Sec.*

The Eastern New York Convention

The third annual convention of the Eastern New York Bee-Keepers' Association was held Dec. 8, 1910, at Albany. President W. D. Wright occupied the chair.

Owing to the recent National convention at Albany, the attendance was not as large as otherwise would be expected. Many who are usually present, and who attended the National convention, were absent at this time. And yet there was a larger attendance than at the last annual convention.

The Secretary's report showed an enrollment of 95 bee-keepers as members, 34 of whom joined during the year.

The Treasurer's report showed a favorable condition of the treasury, with a handsome balance on hand.

On motion of C. B. Loomis, the Secretary was directed to address a communication to Collier's Weekly, to refute the canard concerning artificial comb honey.

W. D. Wright as president, S. Davenport as secretary, and M. A. Kingman as treasurer, were re-elected to their respective offices. Audubon Johnson was elected 1st vice-president, and C. W. Hayes 2d vice-president.

S. Davenport and W. D. Wright were elected delegates to the annual convention of the New York State Association of Bee-Keepers' Societies.

The contents of the question-box were quite limited; but there was animated discussion of the few questions presented, interspersed with wit and humor to the entertainment of the audience.

In answer to one query, the president stated that the best time to put bees into the cellar, from his experience, was from Nov. 1st to 10th.

The question was asked if a larger hive than the 8-frame Langstroth were not more desirable? This led to a lengthy consideration of the subject of the best hive for practical use, during which the Adams hive of 16 Gallup frames parallel with the entrance, was suggested and described by G. H. Adams. He had used this hive for 25 years with the best results, and but little swarming. The merits of this hive were ably advocated by H. Lansing.

It seemed to be fully conceded that a larger hive than the 8-frame Langstroth is more desirable.

It was decided that the next semi-annual convention be held in Albany in the spring.

There had been repeated disappointment in the efforts to secure addresses or papers on specific subjects for this occasion, and much anxiety was felt for the success of the convention; but it proved to be one of the most enjoyable conventions in which the association had ever assembled.

S. DAVENPORT, *Sec.*

South Dakota Convention

The South Dakota Bee-Keepers' Association met at Soux Falls Jan. 27, 1911. While the meeting was not largely attended, nevertheless it was very interesting to those present.

Miss Rhoda Carey gave an excellent address on "What I Know About the Bee-Hive and Its Occupants." Mr. W. P. Southworth, of Iowa, furnished a lot of instructive hints on "Disposing of Our Honey Crop to the Best Advantage." Pres. Ginsback gave a few points on "Management of Bees to Get the Most Honey." Secretary L. A. Syverud talked on "Foul Brood." Discussions followed the different topics and were entered into with interest by all present.

The officers for the ensuing year are as follows: President, R. A. Morgan; Vice-President, C. Pabst; Secretary-Treasurer, A. L. Syverud.

It was decided to hold a field-meeting during the forepart of July.

GEO. F. WEBSTER.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
Dr. C. C. Miller, Marengo, Ill.
He does not answer bee-keeping questions by mail.

Feeding Bees in Winter

Last year was my first with bees. I bought 2 colonies and increased to 6, and took off 140 pounds of comb honey. I had a late swarm, and, having no regular hive, I took a store-box and nailed ⅞-inch slats, so as to have the appearance of a frame hive. Now this box has only a few handfuls of bees, a small amount of comb, and is very light. I have had no experience with feeding bees, so would you advise me to try and feed them through, and transfer them to a new hive in the spring? If so, how would you handle them during the winter? Illinois.

Answer.—The chances for bringing that colony through the winter are not the best. Likely you will do best to take it into the cellar. It is not very likely that the bees would come down to the bottom of the hive to get any feed. If the hive is so made that you can take off the cover, leaving the slats exposed, you can lay pieces of comb honey flat on the slats. Even then the cluster of bees may not be close to the top, and the bees not reach the honey. If you find they do not, you can turn the hive upside down and lay the honey directly on or between the combs, and then there will be little doubt about their reaching the honey. It will do no harm to leave the hive upside down. Years ago, before I had any frame hives, I wintered my bees in box-hives entirely in the cellar, upside down.

Paper Packing for Winter-Cases

I wish to make some winter-cases, to consist of a box of thin lumber lined with a great many layers of building paper. What thickness of solid paper would you consider equivalent to 5 inches of chaff? The whole case is to fit snugly over the hive so as to be easily taken off or put on, and there will be cushions for the top. Would you consider such a case likely to be successful? Ontario.

Answer.—I can do no more than to make a guess in the case, and should say that 10 inches of solid paper might be equivalent to 5 inches of chaff, as the solid paper is a better conductor of heat. But I suppose you would not really use solid paper, but many sheets packed together. That would be different, and 5 inches, or even less, might be as good as the 5 of chaff, depending upon the thickness of the paper. It ought to be successful, but perhaps no better than chaff or planer shavings.

Spacing Frames

1. Is it material that the top-bar of the Miller frame should be 1⅛ inches wide, and, if so, what would be the disadvantages in a top-bar ⅞ inch wide in that frame?

2. How wide were the top-bars of the unspaced frame formerly in use by you?

3. Did you find disadvantages in the unspaced frame other than those mentioned in your book?

4. What is your opinion of the use of the Miller or "metal spaced" frame, with top-bar ⅞-inch square for any location, either comb or extracted honey, the idea being that the combs could be trimmed to the proper thickness with the narrow bar, while the knife would not work against the metal or nails, and at the same time the frame might be used for producing comb honey? Virginia.

Answers.—1. I'm not sure that there would be any harm in having the top-bar ⅞ inch instead of 1⅛ inches, except that it would make more trouble with bur-combs built between top-bars.

2. ⅞ inch.

3. Yes, there was at least one other. As the frames hung entirely free, in time there was a little warping of some of the top-bars. A very slight twist of the top-bar would allow quite a bit of swing out of true at the bottom of the frame, so that it sometimes happened that at the bottom the end-bars or bottom-bars were glued together, causing a very unpleasant annoyance.

4. It might work satisfactorily; but only after trial could one be sure about it. How much the metal spacers would be in the way of an uncapping-knife would depend upon their construction. If there is metal at each end on each side, there would be trouble. As you know I use common nails as spacers. These are only on one end on each side of the frame, and by starting the knife at the end where the spacers are, there ought to be little danger of striking the knife on the metal. I have seen in foreign bee-papers mention of metal spacers that were removable, being taken off for extracting, and then put on again upon returning to the hive.

Dampness in Hives

I have trouble with dampness in my hives; that is, water hanging on the underside of the cover, and I was wondering if a cover like the one in "Forty Years Among the Bees," made with dead-air space, would absorb the moisture from the bees. I don't like to use burlap. I have the hive-entrance contracted, leaving it very small, as robber-bees are always ready for business. Probably the small entrance is the cause of the dampness. California.

Answer.—The cover with dead-air space will not act as an obsorbent, but it will have some effect—and probably a good deal of effect—in preventing moisture from accumulating overhead and falling in drops on the bees. For that air-space keeps the cover warmer than the sides of the hive, and so if there is any condensation it will be on the side-walls, and not overhead. It is a matter of some importance to have the top of the hive warmer than the sides, or, to put it another way, to have the sides colder than the top. Even with solid covers, you will help matters by putting something over them to make them warmer.

Self-Requeening in Same Hive—Leather-Colored vs. Plain Italian

1. I am thinking of requeening by allowing a queen to be reared above the excluder and then allow her to come back and enter the hive below after she is fertilized. Will she kill the old queen, or be killed? If you think this is not a good plan, what would you advise?

2. Please distinguish between leather-colored Italians and Italians. Which do you prefer? Colorado.

Answers.—1. I have not been successful in getting queens reared above an excluder. If a cell is given above an excluder, the queen somehow disappears before she gets to laying. If you should succeed in getting a queen reared, and she should return from her wedding trip, it is uncertain which queen would be killed; probably neither if the laying queen were old enough. A surer way is to have the young queen fertilized in a nucleus and then introduced.

2. Leather-colored Italians are, as the name indicates, rather dark in color, the colored part being of the color of sole-leather as compared with other Italians of lighter color.

Super Entrances—Drone-Comb

1. I have bought some bees, and they are in what is called, I believe, the German hive. It is 3 feet long, and has 2 entrances, each about 4 inches long. Each super has these 2 entrances. Is it necessary on all the supers? The man I bought them of said he used them in summer to get air into the hives. But I think it is a lot of trouble to close them up for the winter, and keep them closed. I would be pleased to hear from some one in Arizona.

2. There are a great many drone-combs in these hives. How many drone-combs ought there to be in a hive? Would it pay to melt up some of the poorest drone-combs and put in foundation. It is hard to find enough extra worker-combs to make a new colony.

I am a beginner in the bee-business, and am depending a whole lot upon what I get from the pages of the American Bee Journal. Arizona.

Answers.—1. It is not necessary to have entrances in supers. Some think it an advantage to let the bees that come from the field enter the super directly, without having to climb up through the brood-chamber, but good authorties tell us that the field-bees do not carry their loads into the super, but unload in the brood-chamber, allowing the younger bees to do the "toting" upstairs. There may, however, be one advantage in having openings in the supers, and that is that it helps to cool off the hive in hot weather, as your friend says.

2. It pays big to melt up drone-comb. It costs more to rear a combful of drones than a combful of worker-brood, and then it costs no little to feed the lazy things, after they are reared. If there is not very much drone-comb in a frame, cut out the whole thing and use the worker part for patching.

Detecting Foul Brood

How can I tell when a colony is first affected with foul brood? I have had a few bees for the past 7 years. I have only 18 colonies, but have never had a diseased one, so I don't know how to look for it. I moved here last fall, and they tell me bees around here have foul brood. Michigan.

Answer.—Keep watch of the brood. So long as you see no dead brood, all the larvæ being pearly white, you may feel easy. The first thing you will see of European foul brood is that some of the larvæ, instead of being white, will have a yellowish color. In American foul brood, as the disease advances, you will see the cappings of some of the sealed brood sunken, with a hole in the center. When you find any dead brood, send a sample to Dr. E. F. Phillips, Agricultural Department, Washington, D. C., and he will tell you without charge what the trouble is.

Grapevines for Shading Hives

1. How far from the entrances of hives would you advise one to make a trellis of grapevines? Do you think it would be good to make a trellis up against the front of the hive?

2. Do you think it is best to have one for each hive, or have one running the whole width of the yard? California.

Answers.—1. Plant a vine close up to each hive at the south side without paying any attention to the entrance.

2. Less in the way to have a vine for each hive with a stake for it and cross-arms running east and west.

Prevention of Swarming

1. What are the disadvantages, or advantages, in taking away the queen from a colony strong enough to swarm, and cutting out all but one cell on the 8th day thereafter?

2. Would the fact that my colonies usually swarm two weeks before the white clover flow affect the matter? If so, in what way? Virginia.

Answers.—1. There would be the advantage that if the occupant of the cell left should succeed to laying, the colony would not swarm that season. There might be no disadvantage. There might be the disadvantage that the cell left might contain only a dead larva. That would not often happen. A colony might be "strong enough to swarm" without being in proper condition for it, and so not in proper condition to rear a good queen. If you should remove the queen a few days after the cells were started, a swarm would be practically certain to issue before the end of the 8 days, when you would cut out cells.

2. I'm not sure that would make any difference.

Plan to Retard Swarming

1. Do you think the following plan would work? About March 1st (for that is just about swarming time), take the best Italian queen out of her hive and put her in another which has a black or hybrid queen, killing the black one first. Then when the queenless colonies have the queen-cells all

capped, take one frame out with 2 or 3 cells on it (brushing the most of the bees off) to a hive containing black bees; kill the queen and put the frame with the cells in the center of the hive; take the frame that was just removed with young bees in the cells (but be sure there is no queen-cell on it) to the queenless Italian hive. Then take the rest of the cells and do as before, except one, which you must leave in the queenless hive. This will prevent the bees from making cells on the black brood-combs, and will hinder the black colonies but a few days till the new queen commences laying.

2. Would this plan retard swarming?

3. Would it be a good plan to have another hive with a good Italian queen filled with drone-brood at the same time I removed my Italian queen? ARKANSAS.

ANSWERS.—1. Your plan will work, with the exception given in the next answer.

2. It may hasten swarming, and may even induce swarming in a colony which otherwise would have no notion of swarming. For you put in 2 or 3 cells, and that makes the colony in the condition of a colony that has swarmed and is ready to send out a second swarm, only it is stronger, and so more sure to swarm. If you give only a single cell, and the young queen gets to laying, that will not only retard swarming, but will prevent it altogether for the season.

3. Yes, only it will be enough to have the equivalent of one or two frames filled.

Wintering Bees in British Columbia

Wintering bees seems to bother here. I have my bees in chaff hives out-of-doors, but there are quite a lot of nice days which coax the bees out, but they drop on the snow never to return to the hive. I have the entrance blocked, but still some bees come out. Would it hurt to enclose them with wire-netting for a time? BRITISH COLUMBIA.

ANSWER.—You could hardly do a worse thing than to close the entrance with wire-cloth. Finding themselves imprisoned, a great uproar would be raised by the bees, and more would die than would die outside on the snow. A board set up to shade the entrance is about as good as anything. But sometimes it is not the best thing to prevent the bees flying, especially after long confinement. The greatest trouble comes from snow that is so soft that the bees sink in it. Some sweep away the snow for some distance, or beat it down hard. The snow may also be covered with straw, hay, or something else.

Keeping the Bee-Cellar Dry

Is there any way to keep a cellar dry enough for bees when the thermometer is only 38 degrees, Fahr.? I lost all my bees the last 3 winters. I think it must be because of the dampness and the cold. What can I do to keep it warm and dry? We have had bees for the last 20 years, and have been successful until the spring of 1908, when we lost all. MINNESOTA.

ANSWER.—Putting lime in the cellar will help to keep it dry. But at 38 degrees, the cold may be more to blame than the dampness. For years, before there was a furnace in my cellar, I kept a small stove in it, and kept a low fire in it whenever necessary to keep the temperature up to 45 degrees. It seems a little strange that after 17 years of success you should have a failure 3 years in succession. Like enough the tide will now turn, and you will again have good success. In my earlier years of bee-keeping I had experience as bad as yours, but by sticking to it I've made quite a lot of money from the bees since.

Splinting Combs—Painting Hives—Queenless Colonies in Spring

1. What is the system you advise in using "des lattes de bois," so that the bees will build the foundation nearly perfect?

2. Do you really think that a light blue paint on hives is better than white paint?

3. In taking colonies out in the spring, if I find that some are queenless, what shall I do? Having no queen on hand or to spare, is it the best way to make one colony out of two? If so, should it be done at once regardless of the weather? CANADA.

ANSWERS.—1. If I am not astray in my poor knowledge of French, "des lattes de bois" means "wooden lath." I can hardly think you mean to use lath in getting foundation perfectly built, and the nearest I can think of is foundation splints. When you buy foundation splints, you receive with them a printed slip that tells you how to use them, the same as the directions given in "Forty Years Among the Bees." The splints, which are about 1-16 square, and ¼ inch less in length than the inside depth of the frame, are boiled in beeswax until the air and moisture are boiled out of them, and then while warm, but not too hot, they are one after another laid upon the foundation and rather lightly pressed in with one edge of a little board kept wet. The foundation rests upon a board that fits inside the frame. Of course, the foundation is fastened in the frame at the top-bar, and it is also fastened at the bottom-bar. About 1½ inches from each end is placed a splint, and between these 2 splints 3 others are placed at equal distances.

2. I hardly think so.

3. Either unite the queenless one with a queen-right colony, or divide the queenless one, giving parts of it to two or more colonies. There is no such haste in the matter that it need be done in bad weather.

Moving Bees—Facing Hives—Weak Colonies

1. I have 17 colonies of bees, and I would like to move them about 300 yards to a small orchard. When would you advise me to move them, and how?

2. Which direction do you think it best to have the frames of hives? I have my hives facing the south, and every warm day that comes they take a flight, and so many drop in the snow and die.

3. I have 3 weak coloines and would like to save them. How is the best way to feed them? I am not fixed to feed them as some of the larger bee-men. IOWA.

ANSWERS.—1. You might wait until they have taken a cleansing flight in the spring, and then move them on a wagon, fastening the bees in the hives. Clean up everything on the old location, so it will look as different as possible.

2. It probably makes little difference which way they face. Perhaps more favor a southern or southeastern exposure than any other way. You can prevent the bees coming out and falling on the snow by putting a board up before the entrance.

3. No one should ever wait till winter to feed bees. Perhaps the best thing you can do now is to lay comb honey on top of the frames, covering up warm. If you can not get the comb honey, you can use cakes of sugar candy.

Names and Terms in Bee-Keeping

What does "foul-broody" mean? Does it mean anything? How can a colony be "broody?" What is the need of using such an expression? Is it not taking liberties with the English language? Why are so many of us older bee-keepers slip-shod in our use of terms relating to bees an bee-keeping? Why not say It-alian rather than I-talian? Why not be right rather than wrong when it does not cost anything? Why use freak terms, pronunciations, etc.

NEW YORK.

ANSWER.—Why are people ignorant? Why are they careless? I'm afraid, however, that not all violations of good usage on the part of bee-keepers can be attributed to ignorance or carelessness. There are bee-keepers who have all the outward appearonce of respectability, and who do not seem to transgress on account of either ignorance or carelessness, who write about "shook swarms." It must be pure cussedness.

There is, however, some warrant for "foul-broody." It seems to be in accord with good custom to add the termination "y" to a disease to mean suffering from that disease. "Colicky," meaning suffering from colic, is an example. "Croupy" and "headachy" are also good dictionary words, and there are probably others of the same kind. It is a little shorter to speak of a "foul-broody colony" than to speak of a "colony suffering from foul brood."

Danzenbaker vs. Dovetailed Hives

1. I want to adopt the 4x5x1⅜ plain section, and I understand one can get more comb honey with the Danzenbaker than with any other hive. I now have my bees on Hoffman frames in my own make of hives. No two are alike. I want to get down to business now, and have all equipment exactly alike. My honey-flow is from white clover only, and of only a few weeks' duration. With the Hoffman frame it seems as if they put too much honey in the brood-frames and not enough in the sections. With the Danzenbaker shallower frames, of course, more would go into the super, but with this shallow frame hive is there not danger of getting pollen into the super also?

2. If you have ever used this hive how did you like it?

3. Do the bees winter well in it?

4. Are not the frames harder to handle than the Hoffman?

5. Will the bees store enough in brood-frames to winter on without feeding? Any information you can give me on this hive will be gladly received.

6. If you think I am making a mistake by adopting this hive over the dovetailed with Hoffman frames, please say so?

MISSOURI.

ANSWERS.—1. Yes, in my own experience I found more pollen over the Danzenbaker frames, and others have made the same complaint.

2. I used only 2, but did not like them well enough to continue their use. I could not get more honey with them than with the other hives, and I don't believe you can.

3. Yes.

4. The Hoffman frames are harder to handle than the frames I use, and the Danzenbaker are still harder than the Hoffman.

5. In this respect you will find them about the same as the Hoffman.

6. Before settling down upon this hive and section I strongly advise you to make a trial of both the hive and the section on a small scale. The majority of large producers, I think, prefer the regular Langstroth size of brood-frame (17⅝x9⅛) either in the form of the Hoffman or some other form, and the 4¼x4¼ section.

Frames and Hives from European Foul-Broody Colonies

1. Could a nice lot of 5-inch extracting combs that have been on European foul brood colonies, and after extracting cleaned up by the bees, be fumigated in any way so they would be safe to use again? Would it do to use them to rear brood in?

2. Would the frames from European foul brood colonies be rendered safe for further use by thoroughly boiling them?

3. Would the hives from such colonies be rendered safe for use by scorching with a painter's blow-torch?

4. How much of the hive and fixtures (nearly new) of such colonies may profitably be prepared for safe use again?

MINNESOTA.

ANSWERS.—1. It is a bit doubtful whether fumigation of any kind would be successful against spores, so as to make one feel safe in using combs that would not be safe without fumigation. But it is an open question, yet, whether such extracting combs would be unsafe without fumigation.

2. I used a large number of such frames after boiling them in lye. Possibly the boiling was not necessary for safety, but for cleanliness.

3. Yes, and a large number of men experienced with foul brood say that there is no need to disinfect the hive in any way, either for European or American.

4. I don't know. It's a problem I'm working on. There are extremes of opinion. Some say use all; some say use none. Personally, I think I would risk using everything but the brood-combs, and it is possible that it would be safe to use an infected comb if it had been away from the hive a week or more and was given to a *strong* colony. But remember this refers to E. F. B., for A. F. B. is another story.

Dr. F. L. Peiro, 72 E. Madison St., Chicago, Ill., will be glad to furnish advice free to readers of the American Bee Journal along the line of obscure surgical and medical aid. Any of our readers, who wish to consult a doctor who understands his business, will find it to their interest to write or see Dr. Peiro. The Editor of the American Journal has known him intimately as a neighbor, and also through personal treatment, for almost 20 years. He will "treat" you right, if you give him the opportunity.

REPORTS AND EXPERIENCES

California Prospects—Value of Bee-Papers

We had a splendid rain recently, and prospects for more. I hope we will have late spring rains to insure a honey crop. Good honey is at a premium here, and not any to be had. I can get from 8 to 10 cents per pound for white extracted honey that formerly sold for 6 to 7½ cents.

If *all* honey-producers would subscribe for all 3 of the United States bee-papers, all would be sure of securing better and uniform pricess for their honey. It is ignorance, or lack of proper information, that causes low prices. Buyers take advantage of these conditions. It would surprise any one to know the great number of bee-men here that do not take a bee-paper.

M. H. MENDLESON.

Ventura, Calif., Jan. 11.

Oldest Bee-Keeper's Report

The past season was too dry for bees. I had 40 colonies, spring count, and they produced 1000 pounds of fine comb honey besides about 200 pounds of dark honey. I sold the clover honey for about 15 cents per pound, and will feed the dark honey.

I put the bees into the cellar Nov. 20, 1010.

I take 3 bee-papers, read them all, and do not know which is best. But I can't do without them. JOHN CLINE.

Darlington, Wis., Jan. 27.

[Mr. Cline has the reputation of being the oldest bee-keeper in the country, having had bees the longest—86 years. He surely made a fine record for 1910, for one of his age. We hope he may continue to be the oldest bee-keeper for many years to come.—EDITOR.]

Poor Honey Crop

The honey crop around here was rather poor in 1910. I got 700 pounds from 65 colonies, spring count. It was too dry.

I put 80 colonies in the cellar, and they are wintering well. CHARLES J. MILLER.

Long Prairie, Minn., Jan. 18.

A Discouraging Report

The year 1910 was a failure for honey; and 1909 was nearly a failure. In the fall of 1909 bees went into winter quarters with very little stores. In the spring of 1910 they were almost out of everything when fruit bloomed, but it being nice weather they gathered enough to last them until some more bloom came on, or nearly all would have died. Through the summer they got just enough to rear lots of brood, and swarm. Last fall it was so dry they did not store enough for winter, so we had to feed.

We had pretty cold weather from October to January, 1911, but no snow. It is quite warm now, and rainy. J. K. HUNTER.

Allons, Tenn., Jan. 28.

Driest Year in 26 in California

I have lived in California 26 years, and this is the driest season I have ever seen here—less than one inch of rain up to this time. Dry, I should say so! We can have a good season yet, thou6h,, as the late rains are what make the honey, and we have nearly 4 rainy months ahead. S. Q. CONKLE.

Garden Grove, Cal., Jan, 8.

A Report from Texas

I see on page 286 (September, 1910), Mr. Scholl's query in regard to reports from Texas, also the answer on page 360. I believe the answer is correct. As Texas has bee-keepers from all parts of the Union, it may be said that there are 3 classes of bee-keepers here. Class No. 1 wants to tell everybody what they have done and what they are going to do; Class No. 2 loves to tell of the big things that they have done, and leave the little things untold. With this class Mr. Densy is right—they have no big thing to report, and so prefer to remain silent. The word "enterprise" may be applied to the 3d class.

I have been keeping bees for several years, but I have never been able to get the large crops of honey like those I read of. Neither can I get the fancy prices that some get. Therefore I dislike to tell of the little crops. But I will tell it just once, anyway, so here it is:

In 1907 I commenced bee-keeping here with 43 colonies. I run for extracted honey and got 52 pounds per colony, which I sold at 6 and 6½ cents a pound, in 60-pound cans. In 1908, I took 99 pounds per colony, and sold for 6 and 6½ cents. The difference of ½ cent was in the parties who bought the honey. In 1909 I took 80 pounds per colony, and for about one-tenth of this I got 8 and 10 cents a pound, in 12-pound pails. 1909 was my poorest year, on account of the long drouth, getting only 50 pounds per colony, and about 10 percent of this was bulk comb, and brought 8½ to 15 cents, according to size of can. I left my apiary in good condition Aug. 1st, with 03 colonies. When I returned in October, I found 8 colonies queenless and 3 with foul brood.

It continues dry here at present, and prospects for a honey crop are not flattering, though bees are in good condition at present.

Dilley, Tex., Jan. 7. A. J. KOLB.

A Discouraging Experience

In the fall of 1908 I came from Iowa to Southwest Texas for my health, and to engage in bee-culture for a living. The 2 years I have been here have brought little more than experience. With rainless winters and very little rain in summer, the bee-keeper has done well to keep up his number of colonies. There are lessons to be learned in leaving plenty of honey for bees, seeing that they have young queens, and giving them good shade. Very little honey has been gathered in this locality for 2 years. The bees of the careful bee-keeper are in good condition, and will be able to do good work if the rains should come. While my bank account has grown less, my health has become better. C. H. MILLER.

Crystal City, Tex., Jan 16.

An Arkansas Amateur's Report

I am surprised to see that Arkansas is seldom represented in the columns of the American Bee Journal. Are there no bee-keepers there, or do they just forget to report? I am an amateur with only 24 colonies of bees in Hoffman hives. I winter them on the summer stands, and seldom lose more than one or 2 colonies each winter. Two years ago (1909), I ordered an Italian queen, and now I have nearly all Italians. I produced 125 pounds of honey from a swarm of bees that issued about April 15th. I put them in a super, for I was short of hives; on the 16th another swarm was put in a super and a queen-excluder put on the first one. Then on the 17th a swarm issued from a hive that had an excluder under it and went into the "super-hive." This crowded them until they had to lay out, so on the 18th I added another super. They went to work at once, but on examination I found the queen that was alone was dead. They soon filled the two upper supers with nice honey. I used only the two supers to this hive, and they contained extracting frames with very small comb foundation starters. When the top super was just about capped, I took it off and cut out the honey, placing the super back under the other one, and so on until the honey-flow was over, which lasted until about Oct. 1st. GEO. GUNTHER.

Cushman, Ark., Jan. 4th.

A 1910 Experience in Kentucky

Four years ago, being over 75 years of age, and finding a convenient retirement for a little rest, I began with one colony of bees to gratify a cherished desire to know more of a business which though always attractive seemed very unattainable. I now have 32 colonies in 8 and 10 frame dovetailed hives, with ample winter stores sealed honey-board over the frames, a super on that filled with protection from cold, slightly raised over the center, hole for escape of dampness, and all well so far.

Now for the crop of 1910. The season here was bad, too much rain and cold, making nectar-flows intermittent and short. My spring count was 10 colonies, 2 of which I devoted to trying to rear queens after the Doolittle plan, but with poor success. During the whole season I failed to get a single artificial queen-cell accepted by the 2 colonies, nor did they build any from the brood given them. Indeed it was hard to find queen-cells anywhere, though I had a limited amount of swarming. Five colonies became queenless early, and owing to conditions stated, I was unable to make them productive in time to get any surplus from them. So my working force amounted to 12 colonies. From these I took 700 pounds of comb honey in 1 and 2 pound sections, which is the best yield reported in this locality. Most of it sold at 20 cents a pound, and none less than a shilling.

My plan of management was early investigation as to condition, supplied all wants, and fed some. At fruit-bloom I gave a hive on top with queen-excluder between. Brood-rearing was fairly good until clover bloom, then I shook the top hive, and I gave supers. I tiered up brood over weak colonies. These and a few natural swarms made my increase. I intended to increase by nuclei to 50 colonies, but for adverse conditions already mentioned. I had quite a lot of unfinished sections; some of these I sold, put some in glass, and some in a 50-pound order from Texas for bulk honey.

I use 2 shallow frames in supers with sections to start work, but not in all. The season closed with colonies strong in bees and brood, but short in amount of honey gathered. Conditions, I think, proved that nectar was not to be had Prospects seem good for the next crop. Clover is abundant, and doing well.

We are having bountiful snows. I am a honey optimist for the future, and want to make one big crop. I am looking to the American Bee Journal to direct me (a novice) in the way I shall do it. R. I. MCQUIDDY.

Lawrenceburg, Ky., Jan. 3.

Rearing Queens in Cool Weather

Four or 5 years ago I bought 2 colonies of black bees. I determined to Italianize them early in the spring, so accordingly early in April I killed one queen, allowing the other to lay until I had reared a cell for it. I grafted the only 2 cells that the black bees started, and they were away out at the end of the frames, 4 inches from the brood-nest, and both were accepted. The grafting was done April 1st, with 2-day old larvæ. These were due to hatch on the 11th, so on the 10th I removed one cell to the other black colony. On the 9th quite a cold spell began and lasted 4 days; it was cold enough for ice for 2 nights, which kept the bees clustered for the days. On the 10th I moved the cell in very cold weather and placed it in the hive about the same as it was in its own hive so far as position goes. I watched for queens to hatch on the 11th, but they did not. Then on the 12th I looked, but no queens yet, so on the 13th and 14th, and still no queens, when I concluded that both queens had frozen. But I left the cells, and about 3 o'clock on the 15th I decided to see about getting the bees to try the job over again, but, to my astonishment, I saw both queens hatching.

I put on the covers and went off to meditate. I figured that as the queens were 4 days late in hatching, or 20 days from egg to queen, that the cold spell was of 4 days' duration; and that the cells were 4 inches from the brood-nest, the queens doubtless hibernated for 4 days. This proves to an absolute certainty that queens will not freeze to kill, hovered or not hovered. The queens were first-class. Since that day to this I take no care of the queens as to their warmth after they are within 2 days of the hatching point. T. P. ROBINSON.

Bartlett, Tex.

Bee-Literature and Patent Hives

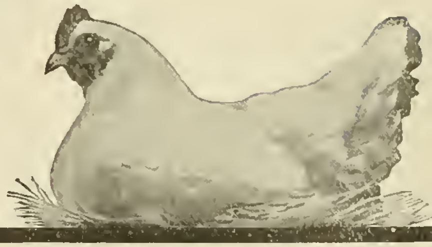
I noticed in the January number of the American Bee Journal a testimonial from a lady in Washington, saying that she had saved $25 ia one season through its instruction. If all small owners of bees could be brought to appreciate this, what a difference there would be in the amount of honey produced, and, of course, in the subscription lists of the bee-papers.

There are a great many bee-men in South-

"Keep chickens,"

says the FARM JOURNAL,

and live better at less cost.



THOUSANDS of families, in city and country, have found this the easy way to IMPROVE their standard of living, and at the same time LOWER THE COST. With chickens you always have delicious food, for the family or for "company." Their eggs supply you with ready money or ready food. They are pets that *pay their board.* By keeping chickens, boys and girls can earn money, and also get an excellent training. Sometimes the back-yard plant grows into a large business, like those of CURTISS, and FOSTER, who make many thousands of dollars a year.

Raising chickens pays if you know how, whether you keep a dozen hens, or run a large poultry-farm; but **you need the best guides.** Many get from their chickens less than HALF as much as they might get with the guidance of any of these **three splendid modern poultry-books,** which tell the experience and methods of the most successful modern poultry-raisers.

These methods have all been *tested* by actual experience and proved successful. The FARM JOURNAL stands back of them, for it has investigated them and KNOWS. They can be used with six hens or six thousand. Many are using these methods with splendid success and profit.

The Million Egg Farm is the great guide-book for back-yard chicken-raisers. It tells how J. M. Foster is running an egg farm in the heart of the New Jersey pine belt that brought his concern a profit of a little **more than $19,000 last year.** This was made from sales of commercial eggs, some stock, and day-old chicks. Foster has nearly 20,000 laying hens now, and will market this year between 2,000,000 and 3,000,000 eggs.

Anyone who "raises eggs," either for market or the home table, should of course know all about the system used in this huge business. "THE MILLION EGG FARM" gives the whole story: How the stock is raised, how the hens are fed, all about the "Rancocas Unit" (which is one of the most interesting features to owners of a few chickens), how Foster started and the mistakes he made, how novices should start, and what to avoid. A really wonderful story of success.

Curtiss Poultry Book tells how Roy Curtiss, a farmer's boy, starting with a few neglected hens, has built up at NIAGARA FARM one of the **best-paying poultry plants in the world.** Roy agreed that if his father would furnish the feed, he (Roy) would supply eggs and chickens for the farm table, and all left over were to belong to him. In two years Roy was using so much feed that his father had to cry quits, but the boy kept right on. His brother joined him, and the business grew and grew. But they had no guidance, and had to learn by their own mistakes. Such a guide as the **Curtiss Poultry Book** would have saved them thousands of dollars. This capital book was written right at Niagara Farm by the veteran poultryman, **Michael K. Boyer.** He says he never saw a general poultry plant so well managed. Every day shipments go off, every day money comes in. Their percentage of fertile eggs, of live, strong chickens hatched, of day-old chicks shipped without loss, is really wonderful. This book gives all their methods and feed formulas, tested and improved by years of experience. Many pictures. Whether you raise chickens, ducks, or eggs, have a dozen fowls or thousands, you will find in this book help that you can get in no other way.

"Poultry Secrets" is a remarkable collection of successful "wrinkles" in poultry-raising, secured and edited by MICHAEL K. BOYER (known to poultrymen as "Uncle Mike"). Many of these were treasured secrets of famous poultrymen, guarded with jealous care because of their great value. We paid hundreds of dollars for them. This is the ELEVENTH EDITION, and thousands are using these methods with great profit.

W. R. Curtiss tells his successful method of hatching **50 per cent.** more pullets than cockerels; the Philo System is described and explained; the "15-cents-a-bushel" and "8-cents-a-bushel" green feed secrets; secrets of the Angell, Palmer, and Hogan Systems; Boyer's method of absolutely insuring fertility of eggs for hatching; Townsend's system for preventing death of chicks in the shell; Felch's famous mating chart, suppressed for many years; feeding and fattening secrets; and MANY OTHER PRICELESS SECRETS, are here disclosed for the first time.

ANY ONE of these books, and Farm Journal balance of 1911 and all of 1912, **50 cents**	**ANY TWO of the books, and the Farm Journal for three years,** **$1.00**	**ALL THREE of the books, and Farm Journal for two years,** **$1.00**

Be sure to say plainly WHICH BOOK *or books you want.*

Farm Journal is the standard paper for everyone who grows or wants to grow fruit, vegetables, poultry, or stock of any kind. It is 33 years old, and has **over 800,000 subscribers,** in all parts of the country. "Judge Biggle" and "Peter Tumbledown" are characters far better known to many than Hamlet or Micawber. It has a fine poultry department, more valuable than most poultry papers. It is a favorite paper with housekeepers. Clean, clever, cheerful, amusing, intensely practical. Cut to fit everybody, young or old, village, suburbs, or rural routes. Unlike any other paper and always has been.

FARM JOURNAL, 101 Clifton Street, Philadelphia.

n Illinois, but very few ever secure a paying crop. About all are satisfied if they received a *little* for family use. Last spring an old fellow was in this and the adjoining county selling a patent-right to a "spring frame" hive. The patent was issued in 1885. He sold his right (?) for $10, and agreed to care for the bees of the purchasers during the season of 1910. He did a land-office business, but in no instance did he comply with his agreement by oversight of the bees. My attention was called to his methods and hive, and I advised against their use, giving my reasons and urging all to read bee-papers and standard bee-literature.

The old man told several of his customers that he was going to call upon me, but he never showed up nearer than my next bee-keeping neighbor, about ⅛ mile distant. I was careful to follow up results, and in every instance the purchasers lost their bees.

When will men cease to bite at the wiles of the patent-right vendor? When will they use ordinary judgment in the use of means for intelligently informing themselves as to the best ways of doing things?

This does not seem to be a very good bee-country. I averaged $4 00 per colony last season, in extracted honey. The honey-flow lasted about 2 weeks during Spanish-needle and heartsease. The quality was very good. and light amber in color. I have lived in Southern Illinois during the seasons of 1909 and 1910, and may not be a good judge of the locality.
H. F. HITCH.
Harrisburg, Ill., Jan. 19.

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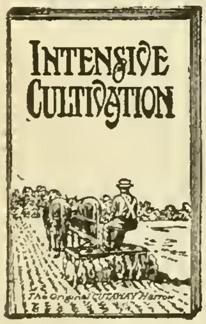
THE NEW FARMER

The "rube" has been succeeded by the "agriculturist." There's as much difference between the "rube" and "agriculturist" as between corn and cucumbers. The modern farmer is a business man, a student, and a progressionist. The result is a great change in cultural methods. Mould-board plows and drag cultivators are being replaced by "Cutaway" tools. Farmers now realize that cultivation is not merely a matter of softening the ground. Thorough, frequent cultivation stirs the soil, lets in air and sunshine and new life, killing foul vegetation. "Cutaway" tools effect perfect sub-soil connections; save time and labor; increase crops 25% to 50%.

Send postal *to-day* to The Cutaway Harrow Co., Higganum, Conn., for new booklet "INTENSIVE CULTIVATION." It's *free*. Adv



We Have Moved

Now located ½ mile from Express, Freight and Post-Office at Talking Rock, Ga. 4 Mail - Trains every day, where we will be prepared to Rear and Ship Superior Golden Italian Queens.

T. S. HALL,
TALKING ROCK, PICKENS CO., GA.
Please mention Am. Bee Journal when writing.

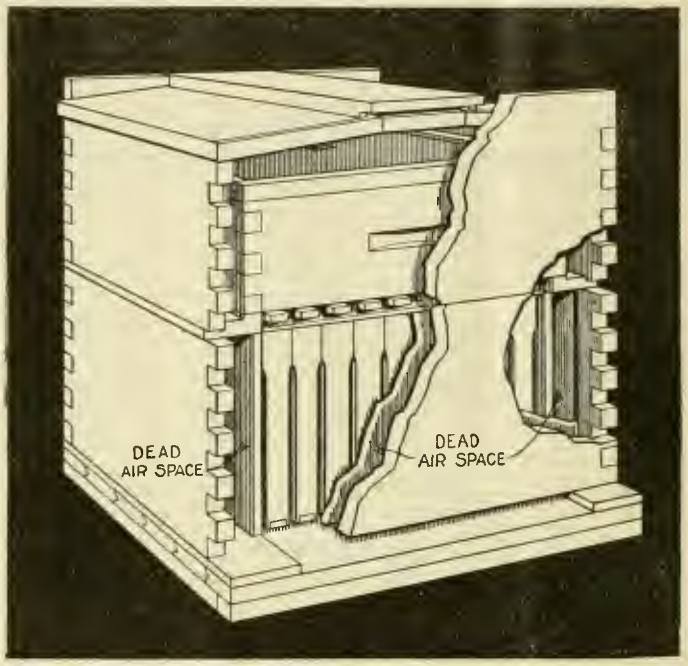
PROTECTION HIVE

All arguments lead to a matter of protection, look where you may. Dead-air spaces or packing, as you prefer

The hive that is sold at less than the material in it will cost you at your local lumber-dealers', equally good stock being used.

Send us a list of goods wanted, and let us figure on Sections, Dovtail Hives, Foundation, and all Bee-Keeper's Supplies. We will save you money.

Send for 40-Page Catalogue



A. G. WOODMAN CO., GRAND RAPIDS, MICHIGAN
Please mention Am. Bee Journal when writing.

ALWAYS ON TOP

Established 1885

We carry an up-to-date Line of

Bee-Keepers' Supplies

Prices the LOWEST in the West. Write us for our 50-page Catalog, ready to mail you. Free for the asking. We can fill your orders promptly and satisfactorily. Our old customers know what we handle; to new ones we can say that we have

The Best Make of Supplies

hence there is nothing to fear as to quality.

Send us your rush orders and get your goods before swarming-time arrives.

Bees and Queens in their season.

Beeswax taken in exchange for Supplies or Cash.

John Nebel & Son Supply Co.
High Hill, Montg. Co., Mo.

Alsike Clover Seed

Small and Large Red, also Alfalfa Seed. Write for samples and prices.

Catalog Apiary Supplies Free. All goods No.

F. A. SNELL,
2A2 MILLEDGEVILLE, Carroll Co., ILL.

THE FAMOUS Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
Tested— each, $1.25; per dozen, 12.00

This, if you please, just paste in your hats. There are no better Bees than

My Famous Banats.

GRANT ANDERSON,
2Atf **San Benito, Texas.**
Please mention Am. Bee Journal when writing.

Famous ITALIAN Queens From the Sunny South

Three-Bands and Goldens bred in their purity.

Hundreds of fine Queens ready March the First. Untested, 75 cts. each; six, $4.20; one dozen, $7.20. Tested Queens, $1.25 each; six, $7.00; one dozen, $12.00.

All orders filled promptly. Address all orders to—

D. E. BROTHERS,
2A9t **JACKSONVILLE, ARK.**
Please mention Am. Bee Journal when writing.

Read how two egg-raisers cleared in one year $6.41 per hen, or over

$12,000 PER YEAR

on their flock of 1953 hens.

THE ordinary poultryman will say it can't be done—that $2 to $3 per hen is the very utmost that even an expert can make, clear. He will say that even if a few experienced men could make $6.41 per hen, it is impossible for two mere beginners to do it.

And yet that is exactly what the Cornings, father and son, DID DO in 1908. Starting five years ago with only 30 hens, with no experience, with Prof. Gowell's bulletins as their foundation, with many experiments and much hard work, this was the result in 1908—over $12,000 profit from 1953 laying pullets. Read the whole story in the

Corning Egg-Book

(entitled **"$6.41 per Hen per Year"**). Not what the Cornings might do, or could do, or want to do, but what they DID DO. No impossibilities, no wild promises of fortunes from a few hens in a dry-goods box. Simply a cool, careful, comprehensive account of how scientific egg-raising makes money ($12,000 per year) for two hard-headed business men.

Are all Recognized Poultry Systems Back Numbers?

The Corning Egg-Book tells everything—where the Cornings find their market, why they raise only white-shelled, sterile eggs, how they keep hens laying regularly in winter, when they hatch chicks that are to do their best work in December and January, how to mix the feed that produces the most eggs, how to prevent losses, how they found the best breed for egg-producing, and how their whole system works to that one end —*eggs*, EGGS, EGGS. Many photographs of the Cornings' Sunny Slope Farm, with complete working plans of their buildings, showing brooder and laying houses, colony houses, breeding pens, door and floor construction, etc., etc. From these plans any builder can reproduce the plant, in whole or in part.

(This last winter the Cornings had 3000 hens, and in January were getting 75 cents per dozen for eggs.)

Corning Laying House No. 2. 1500 hens in 2560 sq. ft.

So important has the poultry industry of the country become, and so valuable do we consider this book to all poultry owners, that we have made arrangements with the publishers of the Corning Egg-Book which enable us to make the following extraordinary offer:

COMBINATION OF
One copy "CORNING EGG-BOOK"
AMERICAN BEE JOURNAL, 1 year
FARM JOURNAL, 2 years
ALL FOR ONLY $1.25

Surely this is a wonderful bargain for anyone interested in poultry. So many bee-keepers keep chickens that we feel sure that hundreds of our readers will avail themselves of this unexpected opportunity. Address all orders to George W. York & Co., Chicago. Please use the coupon.

FARM JOURNAL has for thirty-three years conducted a poultry department known the country over for the ability of its editors and the value of its contents. It is the standard monthly farm and home paper of the country, with already more than 750,000 subscribers. It is for the poultryman, gardener, fruitman, stockman, trucker, farmer, villager, suburbanite, the women folks, the boys and girls. **Regardless of what you may think NOW, you will find Farm Journal is for YOU too.** Clean, clever, cheerful, intensely practical.

Cut out and send this Coupon

GEORGE W. YORK & CO.,
Chicago, Ill.

Enclosed find $1.25, for which send me the great "Corning Egg-Book," postpaid, "Farm Journal" for two years, and "American Bee Journal" for one year.

Name..

P. O. ....

R. F. D.............. State ....

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb. honey-kegs at 50c each f. o.b. factory. N. L. Stevens, Moravia, N. Y.

ITALIAN Untested Queens, 75 cents; Tested, $1.25. Breeders, $5.00 each. E. M. Collyer,
8A12t 75 Broadway, Ossining, N. Y.

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address,
12Atf T. F. Bingham, Alma, Mich.

WANTED—1000 dead queens, and 1000 dead drones. Am. Apiculture & Farming Co.,
12A3 2623 Emerson Ave., St. Louis, Mo.

WANTED—A few more 4 and 5 year old Queens; also bees.
C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

WANTED—by a single man of good character, work in apiary the coming season.
2A1t S. S. Clark, McCook, Nebr.

FOR SALE.—Best bee-outfit in Iowa; or will trade for U. S. or Can. land offers. 2A1t
D. E. Lhommedieu, Colo. Story Co., Iowa.

SILVER LACED WYANDOTTE.—Stock and eggs, from prize winners, $1.50 for 15. Pearl Guinea eggs, $1.00 for 15.
2A1t H. McMahon, Middlefield, Ohio.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, $1; Tested $1.50; Select Tes. $2; Breeders, $5 to $10
8A12t J. B. Brockwell, Bradley's Store, Va

S. C. W. LEGHORN cockrels, 75c to $1.50; eggs in season, $5.00 and $7.00 per 100. Chicks $9.00 per 100. Circular free.
2A1t C. H. Zurburg, Topeka, Ill.

FOR SALE.—White Wyandotte eggs, 15 for $1.00; Indian Runner Duck eggs, 12 for $1.00. 1 sitting, express paid, $1.40; 2 sittings, $2.25.
2A3t J F. Michael, Winchester, Ind.

OUR CATALOG of Poultry, Bees, Bee-Supplies, with free premiums now ready, and yours for the asking. Send for it. Bargain offers and information. H. S. Duby,
1A2t St. Anne, Ill.

FOR SALE.—80-acre farm, 70 miles south of Chicago; running water; 20 acres of timber; fruit, and 1250 bearing grapevines. Cheap for cash. Wm. W. Black,
2A3t 2358 Indiana Ave., Chicago, Ill.

FOR SALE.—Full line Falconer 8-frame Dovetailed Hives in flat; never removed from crates. Also Swarthmore entrance guards. Write for prices. If taken at once will sell very reasonably.
Mrs. Helen M. Ferrie, Hackettstown, N. J.

SITUATION WANTED—By a young man who has successfully passed examination after taking course of lectures and practical work in Apiculture at the Ontario Agricultural College. Any one desiring help of this kind for the season of 1911, kindly correspond with— Morley Pettit,
Provincial Apiarist, Ont. Agri. College,
1Atf Guelph, Ont.

BACK NUMBERS WANTED.—I still need of Vol. XXXIV (1894) Nos. 8, 11, 12, and 16, to complete my files of the American Bee Journal. I also need of the Canadian Bee Journal for 1893, Jan. 1st and 15th, Feb. 15th, and March 1st and 15th; of the Bee-Keepers' Review, January, 1880, and February, 1893. I will be glad to hear from any one who is able to furnish all or any of these missing copies. Address, Morley Pettit,
Provincial Apiarist, Guelph, Ont.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2Atf

HONEY BUSINESS FOR SALE. — Wholesale business established many years in one of our largest cities. Write for particulars, Address, Honey Merchants, care American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & Co.,
117 N. Jefferson St., Chicago, Ill.

A WONDERFUL PHOTOGRAPH.—I have photographed a mountain range 95 miles away, beating all previous records by 30 miles. Better still, I have made a picture, a most unusual thing in tele-photography. The subject is Mount Baker, Wash., a snow-clad mountain 11,100 feet high; the point of view is Victoria, British Columbia. For beauty the scene is not excelled on earth. In the immediate foreground is a solid bank of primeval forest, then come the Haro Straits, 45 miles wide, dotted with many islands; next rise the foothills blending into the snowy grandeur of the Rocky Mountains, with Baker towering high above—a silent sentinel. I have also photographed the Olympic Mountains, Wash., from Victoria, a distance of 65 miles, again getting a picture. It took me 18 months' persistent effort to get them, but I will not bother you with my troubles. I am selling prints from the original negatives, 6½x8½, at $1.50 each, but will supply the pair for $2.00. They are printed on heavy cream paper, ready for framing. F. Dundas Todd, Market St., Victoria, B. C., Canada.

Honey to Sell or Wanted

WANTED—White clover, basswood and amber extracted honey. Give prices and description. P. B. Ramer, Harmony, Minn.

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

WANTED — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

HONEY WANTED.—We are in the market for both extracted and comb honey. Let us know what you have, with sample of extracted honey, lowest prices f. o. b. Chicago, how put up, etc. Address,
GEORGE W. YORK & Co.,
117 N. Jefferson St., Chicago, Ill.

FOR SALE.—A good location for bees, poultry and trucking. Twelve acres. Eight in cultivation, balance occupied by buildings and a small piece of woods. Eight-room brick dwelling that is worth all that is asked for the entire place. A big bargain to the right man. Terms very easy. Particulars free. Geo. H. Rea, Reynoldsville, Pa.

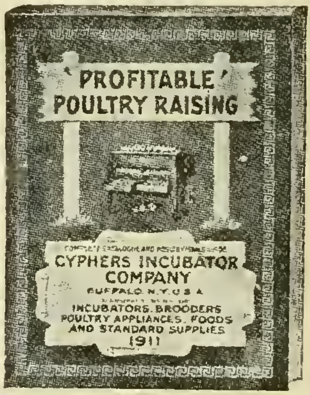
Making Hens Lay.—Although it is now midwinter, a great deal of poultry is just recovering from the moult. This should have been completed by December, and not two months later. However, it is not too late to get hens into laying condition, and if poultry owners will adopt correct feeding methods, they may soon be getting a full egg crop.' It is only those who do not get winter eggs who say that poultry is an expense. Those who feed fresh cut bone and other egg-making food know that poultry is a source of profit, and especially in winter, when so many owners do not feed their flocks intelligently.

The primary lesson for poultrymen to learn is that food—proper food—makes hens lay, and the lack of it—not the weather—stops them.

Of all egg-making food fresh cut bonecombines in the highest degree egg-forming elements and cheapness. The work of cutting it in a Humphrey always-open hopper bone cutter is not hard. A child can turn this easiest of all cutters, and it is the work of only a few minutes to cut enough fresh bone for a large flock of chicks. The Humphrey is a bone cutter that does not need to be cleaned, and it possesses other exclusive advantages. Don't judge a Humphrey by what you may have had. Send for their splendid free book, "The Golden Egg," and learn how to feed and care for chickens from the egg to the ax. You will find it one of the most helpfully instructive books on poultry published. Write today, address, ing Humphrey. Ambee Street Factory Joliet, Ill.

◆

New Guide Book to Poultry Raising.—A book that should be in the hands of every man or woman who is really in earnest on the subject of poultry-raising, and who wants to get out of poultry all the profits that are in it, has just been issued by the Cyphers Incubator Company, Dept. 83, Buffalo, N. Y. It is their 1911 Big Catalog and Poultryman's Guide, entitled, "Profitable Poultry Raising," a handsome book of 212 pages, which will be mailed *free* to every reader who will mention the American Bee Journal.


PROFITABLE POULTRY RAISING
CYPHERS INCUBATOR COMPANY
BUFFALO, N.Y. U.S.A.
INCUBATORS. BROODERS
POULTRY APPLIANCES. FOODS
AND STANDARD SUPPLIES
1911

This big free book tells all about America's Billion Dollar Industry—tells why the farmer is the *natural* poultryman, and why farmers who do not raise chickens on a goodly scale are overlooking one of their most important crops.

It illustrates many of the greatest poultry plants in the country, together with pictures of prize-winning birds, farm scenes, showing how poultry can be raised, nurtured, housed and handled to the greatest advantage. It also pictures and describes Cyphers Incubators and Brooders and Cyphers Standard Poultry Specialties. It will be interesting to the farmer, his wife, or daughter, who realize how much poultry profits mean to the family income. We advise our readers to send a postal request for this valuable free poultry book at once. Address, the Cyphers Incubator Company, Dept. 83, at the place of business nearest you, as follows:

Factory and Home Office: Dept. 83, Buffalo, N. Y. Branches and Store Rooms, Dept. 83, New York City, 24 Barclay St.; Dept. 83, Chicago, Ill., 340-344 North Clark St.; Dept. 83, Boston, Mass., 12-14 Canal St.; Dept. 83, Kansas City, Mo., 317-319 Southwest Boulevard; Dept. 83, Oakland, Calif., 1569 Broadway.

◆

Early Days of Artificial Incubation.—Geo. H. Stahl, a pioneer in an industry that has grown to wonderful proportions, has been at it 32 years. Though his first incubator was very crude—still it was on the right principle, did its work, lived up to every promise made for it, and really hatched chicks. It was the first machine to be taken seriously and looked upon as a really scientific hatcher.

In talking over the early days of the business some weeks ago. Mr. Stahl said: "Our first aim was a machine that would actually hatch every fertile egg that we can put into it. One that could be relied upon to surely and accurately do its work. Then we started simplifying the machine so that any one could understand its workings and run it successfully. How successful we were is shown by the records of the machines we have on the market today."

Mr. Stahl manufactures the "Excelsior" Incubators and Brooders, the "I X. L." Incubator and Brooder Combination, and the "Wooden Hen." A request to Mr. Geo. H. Stahl, of Quincy, Ill., mentioning this paper, will bring you his new 1911 catalog free. Why not write for it today?

◆

Blizzard Belt Strawberries.—The Gardner Nursery Co., Osage, Iowa, will send you 2 Giant "Blizzard Belt" strawberry plants (worth 30 cents), Free of Charge, for testing upon receipt of your name and address.

These berries are large in size and of the finest quality and flavor.

There are no strings to the offer, they simply want to get you to try this wonderful berry.

One customer who set out two of these plants in the spring of 1909, picked 12 quarts of delicious fruit from his test bed last summer.

You can do just as well.

If you care to add 10 cents for mailing expense, the Gardner Nursery Co., Osage, Iowa, will send you 2 two-year-old Baby Evergreens in addition to the Free giant "Blizzard Belt" strawberry plants.

Send your name and address today for plants and The Gardner Nursery Company will send you their Catalog and Bargain Sheets of Hardy "Blizzard Belt" fruits by next mail.

The plants will be mailed you at proper planting time. Please mention the American Bee Journal when writing.

Learn the Cyphers Way of Intensive Chicken Farming for Bigger Profits

REMEMBER, chicken-raising is a *business*—to be gone about in a business-like way.

The best incubator is not too good for you.

The Cyphers has absolutely no heat or moisture worries—no ventilation or regulation uncertainties.

No leaky tanks to spoil your hatches. It has a Patented Diffusive Principle—the only perfect, dependable plan of even heat-distribution. Found in no other incubator.

It is the World's Standard Hatcher. Used by more Government Experiment Stations, more large poultry plants, more leading fanciers, than all others put together.

Fire-Proof and Insurable

Cyphers Incubators and Brooders were the *first* to receive the official Fire Insurance Inspection Labels. Every Cyphers machine bears this label—your protection.

The Cyphers Incubator is fully and positively guaranteed.

Write At Once For Big Free Book

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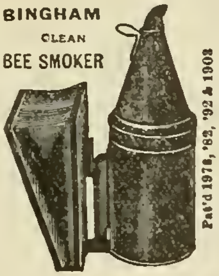

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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

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Patented, May 20, 1879. **BEST ON EARTH.**

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Fine Qualities of

White and Light Amber

Extracted Honey

Send samples with Lowest Prices, f. o. b. New York. Also state how it is packed, an the quantity you have.

We are always in the market for

◈ Beeswax ◈

HILDRETH & SEGELKEN,
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Marshfield Sections

Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

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Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time from now until next April or May. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.20; 25 pounds for $3.00; 50 pounds for $5.50; or 100 pounds for $10.00.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

George W. York & Company,
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This is a new publication of 87 pages, 6 by 9 inches in size. It is a practical treatment of the subject, "How to Make a Start in Bees," by Mr. E. D. Townsend, of Michigan, one of the most extensive and successful bee-keepers in the United States. In 11 chapters Mr. Townsend tells just how to manage bees for the largest success. 50 cents. If you wish a copy in connection with a year's subscription to the American Bee Journal, send $1.35 to this office, 117 N. Jefferson St., Chicago, Ill.

◆

Lewis Catalog.—We have received a copy of the annual catalog of the G. B. Lewis Co., of Watertown, Wis., the cover of which is gotten up in very attractive colors and special design. The G. B. Lewis Co. are among the largest and most reliable manufacturers of bee-keeper's supplies in the world. Their brand is "Beeware."

"If goods are wanted quick, send to Pouder"
(Established 1889)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

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CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use **PILLING** CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c, Gape Worm Extractor 25c, French Killing Knife 50c. Capon Book Free.*
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Better Fruit Publishing Co. HOOD RIVER, OREGON.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

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Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.
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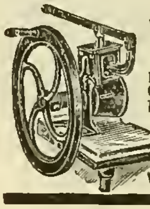

This Bone Cutter

produces filled egg baskets. Cuts fast and easy. Green bone, scraps from table, vegetables, scrap cake. Always ready for use.
Send for catalog.

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Of BEE-KEEPERS' SUPPLIES.

Your Copy is ready and free for the asking. 100th edition of the ROOT Catalog and Descriptive Price-List.

It is with a feeling of pardonable pride that we present to our bee-keeping friends throughout the world this 100th edition of our catalog of bee-keepers' supplies. For 41 years we have been engaged solely in the manufacture of apicultural products, and it is a pleasure indeed to acknowledge the hearty appreciation and reward that have come from our devotion and desire to establish this industry on a more firm and profitable footing, and to simplify rather than make complex, the various implements required to practice the pursuit with a maximum of pleasure and profit from a minimum expenditure of effort. * * * * * *

Being engaged in practical bee-keeping ourselves, and always in correspondence with bee-keepers in every part of the world, our office has become a veritable clearing-house of matters apicultural. * * * * * * *

This is a book of useful and essential supplies for bee-keepers. Whether the recipient is a mere tyro—even a prospective bee-keeper, or whether engaged in bee-keeping along most extensive lines—this is the book that tells what is needed to obtain best results—that points out and explains wherein this article is better than that, and shows and describes the tools of beedom from A to Z. * * *

Extracts from Foreword to 1911 Catalog ROOT'S Bee-Keepers' Supplies.

Call, write or 'phone, but be sure you get your Copy.

The A. I. Root Co.

231 Institute Place, CHICAGO, ILL.
R. W. BOYDEN, Mgr. (JEFFREY BUILDING) Telephone 1484 North.

TOLEDO

Is the Place to

Buy Your Bee-Ware.

Griggs

Is the Man who can

Tell You What to Use and How to Use It.

He is a Practical Bee-man of 25 years' experience. Send to him for his CATALOG—at the Old Stand—

S. J. Griggs & Co.,
24 North Erie St.,
TOLEDO, - OHIO.

"GRIGGS THE KING-BEE."

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Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Ilustrated Bee-book for beginners—"A gem." Dis. for early orders.

J. W. Rouse, Mexico, Mo.

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Bee-Supplies

We are Western Agents for—— rAtf

"Falconer"

—— Write for Catalog.

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

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Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,
Berclair, Goliad Co., Tex.

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Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. Lyons, Rt. 5, Box 88, Ft. Collins, Colo.
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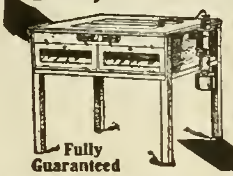
$5.20 Buys My Double Wall, Hot Water Fifty Egg Incubator

A better machine for the money cannot be had. Guaranteed to hatch every fertile egg. Double walls. Hot water tank covers entire top of egg chamber. Absolutely self-regulating. I've built incubators for 30 years.

800,000 Satisfied Users of Stahl Incubators



100 egg size, price $7.60
200 egg size, " $9.60

80-page catalogue shows full line of Excelsiors, Wooden Hens, Brooders, etc. Write for it to-day.

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Ask the editor of this paper if Stahl and his Incubator are right.

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BEE KEEPERS :—

We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

"Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, $1.00; or with the American Bee Journal, one year—both for $1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for $1.25. Send to the American Bee Journal,

Bee Journal "Could Hardly Be Better"

Bro. York:—Both the outside and the inside of the American Bee Journal could hardly be better. The covers are artistic and attractive, and the articles and editorials full of information. The whole bee-keeping fraternity is indebted to you for providing such a storehouse of information, and any one interested in bee-keeping can not well do without it. May the coming year—1911—bring you and your gentle readers much happiness and prosperity.

(Dr.) Frederick Webley.

Santa Cruz, Cal., Dec. 15, 1910.

Comb Foundation

BEE - KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Speciaity of

Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

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Mr. Bee-Man

We carry in stock the well-known

Lewis Beeware, Bingham Smokers, Dadant's Foundation, or Anything the Bee-Keeper may need. **Catalog Free.**

Beeswax Wanted.

The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Why Pay More than 25 Cents?

for a Poultry Magazine when you can get

The National Poultry Journal

FOR EVEN LESS

If you take advantage of this liberal offer. The NATIONAL is an up-to-date poultry paper, published monthly in honor of Her Majesty, the American Hen. Devoted to practical poultry keeping in all its branches, it will help you make more money out of your poultry. Try it a year at our expense, by sending us your name and address plainly written, and enclosing only fifteen (15) cents to help pay postage, and we will send you the NATIONAL for one full year. Address,

The National Poultry Journal, Business Offce, Elkton, W. Va.

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(Successors to the York Honey & Bee-Supply Co.)

148 West Superior St., CHICAGO, ILL.

Send for Catalog.

Enough said!

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Made of **High Carbon Double Strength** Coiled Wire. **Heavily Galvanized** to prevent rust. Have **no agents.** Sell at **factory prices on 30 days' free trial.** We pay **all freight.** 37 heights of farm and poultry fence. **Catalog Free.**

COILED SPRING FENCE CO.

Box 89 **Winchester, Indiana.**

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GET EGGS NOW

Humphrey's newest book, "The Golden Egg," will show you how to get eggs all winter, and from 150 to 250 eggs a hen a year. I will give you, FREE, my secret of reducing feeding cost one half and of doubling your poultry income.

Humphrey, Ambee Street Factory, Joliet, Ill.

Where Humphrey's Bone Cutters, Clover Cutters, Brooders and other Poultry Helps are made.

COFFEE ONE CENT PER POUND

Salzer's French Bean Coffee

(SOJA HISPIDA)

A wholesome drink! The healthiest ever; you can grow it in your own garden on a small patch 10 feet by 10, producing 50 lbs. or more. Ripens in Wisconsin in 90 days. Used in great quantities in France, Germany and all over Europe.

Send **15** cents in stamps and we will mail you a package giving full culture directions, as also our Mammoth seed catalog free; or send **31** cents and get, in addition to above, 10,000 kernels unsurpassable vegetable and flower seeds—enough for bushels of luscious, different vegetables and brilliant flowers.

JOHN A. SALZER SEED COMPANY

210 South 8th St. La Crosse Wis.

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Farmer BOY'S $1000.00

For a single ear of corn

5,000 smaller prizes

By the man who has given more prizes and more fine corn than any other man in the world. Get ready for the contest. All particulars and a big package of pedigree seed corn free. Address

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10 CENTS A DAY

buys the Emerson Typewriter. Made in our own factory at Woodstock, Ill. **$50 now—later the price will be $100.** The best typewriter made. Entire line visible. Back spacer, tabulator, two-color ribbon, universal keyboard, etc. Agents wanted everywhere. **One Emerson machine free** for a very small service. No selling necessary.

To Get One Free and to learn of our easy terms and full particulars regarding this unprecedented offer, say to us in a letter, "Mail your FREE OFFER."

THE EMERSON TYPEWRITER CO.,

Box 79, - - - - Woodstock, Illinois.

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WONDERFUL FALL-BEARING Strawberry

Fruits in Fall of first year and in Spring and Fall of second year. **Better than a gold mine.** 500 plants set in Spring of 1910 produced in Aug., Sept., Oct. and Nov. nearly 400 quarts, which sold at 40c to 50c per qt., netting us over **$2,000 to the acre.** We are headquarters for these plants. Also all other Berry Plants —Plum Farmer, Idaho and Royal Purple Raspberries, Norwood and Early Ozark Strawberries. Hastings Potato. 28 years experience. Catalog will be sent you free. Write to-day. **L. J. FARMER, Box 14[illegible] PULASKI, N.Y.**

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13¼ Cents a Rod

For 18-in. 14 3-4c for 22-in. Hog Fence; 15c for 26-inch; 18 3-4c for 32-inch; 25c for a 47-inch Farm Fence. 48-inch Poultry fence 28 1-2c. **Sold on 30 days trial.** 80 rod spool Ideal Barb Wire **$1.45** Catalogue free.

KITSELMAN BROS.,

Box 85 MUNCIE, IND.

Please mention Am. Bee Journal when writing.

HONEY AND BEESWAX

CHICAGO, Jan. 26.—The honey market is fairly active, and prices are well maintained. We get from 17@18c for the best grades of white comb honey. The amber grades range from 12@15c, with those that are of poor flavor and out of condition selling at a lower price. Extracted is in good demand, and very little of the clover and linden grades are obtainable, and now bring 10c per pound. Other white grades range from 8@9c, according to body, flavor, etc. Beeswax is in good demand at 32c per pound, if bright in color and free from sediment.
R. A. BURNETT & CO.

CINCINNATI, Feb. 6.—The demand for comb honey has slackened up to such an extent that those who have any on hand are sacrificing it in order to get rid of it. On the other hand, it does not seem as if the trade is craving for honey in the comb at this time of the year. Extracted honey is not moving as freely as we expected, nevertheless for strictly fancy we are getting from 9@10c in 60-pound cans, 2 cans to the crate, according to the quality and quantity bought. Amber honey in barrels, from 6½@8c. We are paying 30c cash, or 32c in trade for nice bright yellow beeswax free from dirt.
THE FRED W. MUTH CO.

INDIANAPOLIS, Jan. 26.—There is a good and steady demand here for best grades of comb and extracted honey. Jobbing houses are well supplied, but practically none is now being offered by producers, and it is evident that there will be a shortage before the new crop can arrive. Fancy white comb is being offered at 18c; No. 1 white at 17c; extracted, 11c, with some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 28c cash, or 30c in trade.
WALTER S. POUDER.

KANSAS CITY, MO., Jan. 26.—The supply of extracted honey is light, the demand for white extracted is fair, but amber extracted is very slow sale. Supply of comb is light, and the demand good. We quote: No. 1 white comb honey, 24-section cases, per case, $3.50; No. 2, $3.25; No. 1 amber, $3.25; No. 2, $2.75@3.00 Extracted, white, per lb., 9@9½c; amber, 7@7½c. Beeswax, 28@30c.
C. C. CLEMONS PRODUCE CO.

CINCINNATI, Jan. 26.—Comb honey is in fair demand, and same is selling at $3.75 per case for No. 1 white. Amber extracted in barrels is selling at 7c; in cans, 7½@8c. White extracted honey in 60-lb. cans 9@10c. California light amber, 8½c. All grades of extracted honey are in fair demand. Beeswax is in fair demand at $32 per 100 pound. These are our selling prices, not what we are paying.
C. H. W. WEBER & CO.

BOSTON, Jan. 28.—Fancy and No. 1 white comb honey, 15@16c. Fancy white extracted, 10@11c. Beeswax, 30c.
BLAKE,-LEE CO.

NEW YORK, Jan. 27.—There is practically no change in the market; that is, as far as comb honey is concerned. Fancy white is in fair demand only, while all other grades are dragging, and for the time being we can not encourage consignments or shipments. We quote, fancy white, 15c; No. 1 at from 13@14c; all other grades, such as No. 2, white, mixed, and buckwheat, at from 9@11c, according to quality. Extracted honey is in good demand, principally for white stock, which is rather scarce, while there is a sufficient supply of lower grades and dark. We quote, white clover and basswood at from 9½@10c; light amber at from 8½@9c; mixed and buckwheat at from 6½@7c; West India and Southern, average quality, at from 70@75c per gallon; Southern light color, at from 80@85c per gallon. Beeswax quiet, at from 29@30c.
HILDRETH & SEGELKEN.

DENVER, Jan. 27.—Demand for honey is light; prices are well maintained, however, especially on first-class extracted. Our jobbing quotations are as follows: Strictly No. 1 white, per case of 24 sections, $3.60; No. 1 light amber, $3.38; No. 1, $3.15. Extracted, white, 9c; light amber, 8@8¼c; strained, 6¾@7½c. We pay 25@26c for clean yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

ZANESVILLE, OHIO, Jan. 28.—Local jobbing houses are fairly well stocked at the present time, in view of the slack demand for honey that always follows the Holidays. Prices are about as last quoted. Except in glass retail packages, for which there is a fair demand, there is not much call for extracted honey. Producers are offered for beeswax 28c cash, 30c in trade.
EDMUND W. PEIRCE.

Increase Your Honey Crop

By introducing some of OUR
Famous Honey-Queens.
Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.**
Will sell Queens the following prices, May to Nov..
Untested Queen, $1.00; 6 for $5.50. Tested, $1.50; 6, $8.50. BREEDERS, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

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CINCINNATI

The advantages of ordering your supplies from us are many.

1st.—WE CAN DELIVER goods in much less time than dealers located at small local points.

2d.—You pay only minimum freight or express charges from our place. No dealer is better situated than we are to save you transportation charges.

3d.—We carry large, well assorted stocks of all standard Bee-Supplies. We sell ten to twenty carloads annually, and, by purchasing for cash, we secure the lowest possible prices, and can give our customers every possible consideration.

4th.—OUR LONG ACQUAINTANCE with the needs of bee-keepers enables us to keep on hand large stocks of standard goods. Our business was founded many years ago; and in connection with the line we now handle manufactured at Medina, Ohio, we have the confidence of bee-keepers in a measure enjoyed by but few supply houses.

5th.—OUR SUCCESS AS DEALERS in Bee-Keepers' Supplies, and in Honey, Seeds, and other merchandise, is due to the scrupulous care we exercise in the handling of all inquiries and orders. We give prompt attention to all requests for information on bee-keeping generally, to any request for prices on supplies needed, as well as probable time it would require to deliver goods. We solicit your inquiries and orders.

CATALOG.—Our new Catalog for 1911 is ready for mailing. If you have not already received one, and want a Catalog at once, send us a request. All customers of 1910 will receive a copy as soon as we can mail it, without request.

If you are in want of a Catalog at once, please give us the names of any other bee-keepers in your vicinity who would likely be interested. We shall appreciate the favor; and when opportunity offers we shall reciprocate the same. REMEMBER THAT WHATEVER YOU DO FOR US WILL NOT BE OVERLOOKED HERE, AND YOUR OWN INTERESTS WILL BE ADVANCED BY THE SAME.

Ask for our Catalog of Poultry Supplies.

C. H. W. Weber & Co., Cincinnati, Ohio.

Is your crop of White Clover Honey short? We can furnish you with

ALFALFA HONEY

Both White and Water-White. Finest Quality. Prices quoted by return mail, and Shipments made Promptly.

Beeswax Worked for You Into

DADANT'S FOUNDATION

Best by Test. Let us send you Proof.

Beeswax wanted for Cash or in Exchange for **Bee-Supplies**

Early Order Discounts now offered for Cash.

Satisfaction Always Guaranteed.

DADANT & SONS, Hamilton, Illinois.

"The Only Bee-Supply House in the Business Section of Chicago."

117 N. Jefferson — The "Falcon" BRANCH

At the Sign of the Four Bee-Thermometers.

Our branch is just west of the new Northwestern depot and a little northwest of the Union Station. Every other depot is within convenient walking distance. Surface and elevated cars are almost right at our door. When you are in Chicago you do not have to waste a lot of time riding away out into the residence section of the city for your supplies as formerly—but just drop into the **"Falcon"** Branch, "at the sign of the four bee-thermometers;" make it your headquarters; have your mail sent in our care; and when you are ready to go home, you can step right from our place to the depot with your bundles. The relief from lugging such Supplies as you wish to carry home with you all around the city in crowded cars will be appreciated by all bee-keepers who have been accustomed to visiting Chicago. Drop in "at the sign of the four bee-thermometers" at any time, whether you wish to purchase or not. Mr. George W. York, our office manager, will be glad to see you and talk bees with you.

Letters are answered and freight and express shipments sent the day the order is received.

A clean stock, fresh from the saws of the factory, has just been received—Hives, Sections, Foundation, Smokers, Extractors—everything for the bee-keeper.

"Falcon" quality goods are not equalled—why buy others when they are better and cost no more?

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51st Year
No. 3

March, 1911

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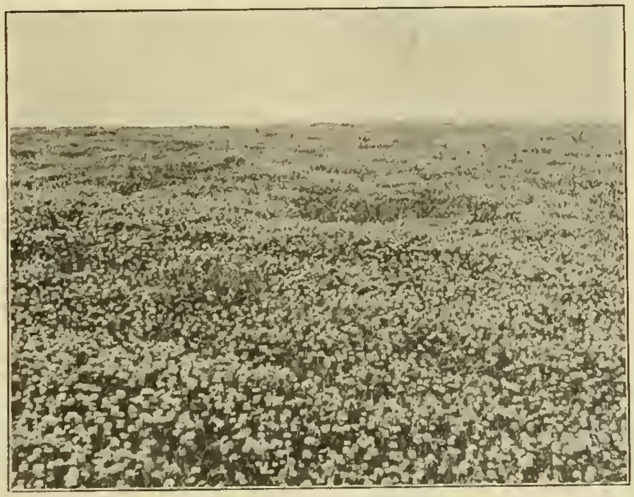

22-Acre White Clover Field in Iowa.

Apiary of John P. Coburn—See page 71

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ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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Nothing less than 4 lines accepted.

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Goes to press the 6th of each month.

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(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

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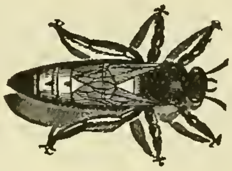

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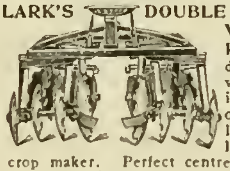

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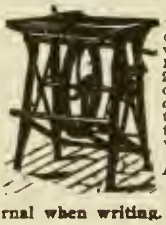

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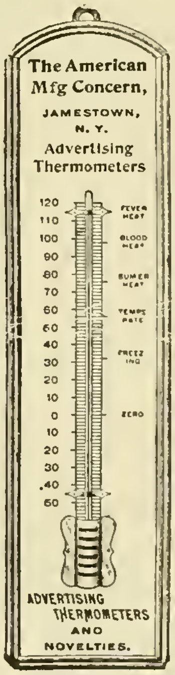

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AMERICAN BEE JOURNAL

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at $1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., MARCH, 1911

Vol. LI---No. 3

EDITORIAL COMMENTS

Reciprocity With Canada

The tariff on honey brought from Canada into the United States is 20 cents a gallon. The Canadian tariff on United States honey is 3 cents a pound. If 12 pounds are figured in a gallon, 20 cents a gallon is equivalent to 1⅔ cents a pound. If 2 bee-keepers live on opposite sides of the line within a mile of each other, the Canadian has 1⅓ cents the advantage over his yankee neighbor. Suppose Jones, the Canadian, brings honey across the line, and sells it at 10 cents a pound. The tariff being deducted, he will net 8⅓ cents a pound net. If Smith, on the United States side, sells north of the line at 10 cents, the 5 cents tariff will make his honey net him 7 cents.

If the efforts of President Taft and Secretary Knox prevail, it will not be so very long before this will be changed and honey will pass free of duty from one country to the other.

Size of Honey-House

> It is a little difficult to decide upon the best size for a cellar and bee-house, but this much I do know, that I never heard a bee-keeper complain that his honey-house was too large—I have often heard him complain of lack of room. For an apiary of 100 colonies I think a house 24x16 would be none too large, and I would have an attic or upper story at that. About 14 feet is sufficient height.—*Bee-Keepers' Review.*

All of which is good; but might it not go just a trifle farther? With "more bees" constantly dinged into his ears, how does the owner of 100 colonies know he will never go beyond that number? A house 24x18 feet will hold ⅛ more than one 24x16, without costing ⅛ more. Still less in cost will be added by increasing the height. If the building be 14 feet high, one or both stories will be less than 7 feet high. A foot or more higher than that will be very convenient very often to pile high supers and other things, the convenience greatly overbalancing the cost.

A Beeswax Explosion

> About a pound and a half of wax being heated in a deep wash-dish over an ordinary stove. The dish had a rounding bottom, was about a foot in diameter at the top, and perhaps 6 inches deep. The melted wax occupied not more than 1½ inches space at the bottom of the dish. When fine bubbles of wax commenced coming to the top, showing that the boiling-point had nearly been reached, about half a pint of water from a tea-kettle was poured in, the idea being to cool the wax and prevent it from boiling. Without any warning, however, there was a sudden explosion, all the hot water and wax being thrown violently into the face of the one who was performing the experiment; and, as the wax had to be scraped off with a knife, it caused some quite severe burns before it cooled
>
> Now, did this wax, like nitro-glycerin or gunpowder, simply explode of its own accord? There was no exposed flame or fire at any time, and, fortunately, nothing caught fire afterward. Our explanation of the trouble is as follows: Wax boils at a much higher temperature than water; hence, although the wax in the dish on the stove had not quite reached the boiling-point, its temperature must have been considerably above the boiling-point of water. When the hot water from the tea-kettle was poured in, its tendency was to go to the bottom of the dish because the wax is lighter; but the high temperature immediately volatilized the water; and as the steam had no exit except through the wax, it fairly lifted the whole contents of the dish into the air. —*Gleanings in Bee Culture.*

It is well that this warning is heeded. The result would likely not have been the same if cold water had been poured in, instead of hot water from the tea-kettle, but the safer way would be to have at least some water in the bottom of the vessel before allowing the wax to be heated above the boiling point of water.

Disinfection of Hives

D. M. Macdonald says in the British Bee Journal regarding disinfection of hives that have contained foul brood: "'The McEvoy treatment is an effective cure *when properly carried out.*' That includes *disinfection.*"

Mr. Macdonald is too intelligent to think that Mr. McEvoy advocates disinfection, and too honest to misrepresent. But for once he has been unfortunate in expressing himself. The McEvoy treatment emphatically does not include disinfection, and Mr. Macdonald's idea probably is that an effective cure of foul brood may be secured by the McEvoy treatment *plus* disinfection.

Bees Carrying Eggs

Every now and then a report is made that bees have carried an egg from one cell to another. W. Abram, editor of the Australian Bee Bulletin is very certain that not one of these reports is reliable, for the simple reason that it is an impossibility for a bee to do anything of the kind, and he establishes that impossibility in this way:

> When the bee lays an egg it is coated with a glue-like substance, which makes the egg adhere to the bottom of the cell. It very soon hardens, and once hard nothing but the use of a paste-brush or such-like utensil can make it stick in another cell, not to mention that the shell of the egg may be damaged if removed from its place of deposit in the cell. Now, as the bees have no means of fastening the egg to the bottom of the cell, they can not transfer them from one to another.

This seems quite conclusive; for if a thing is impossible it can not very well be done. But it would not be strange if some who think that bees carry eggs should reply somewhat in this strain:

"How does Mr. Abram *know* that when the glue-like substance hardens it can never be softened again? It is the drying out that hardens it, and if it is moistened why will it not be soft again? And if bees can moisten candy, why can they not moisten a glue-like substance?"

Breeding for Improvement in Bees

In a letter I have received from E. S. Miles, he says:

> Pardon me if I tell you where I think you made a mistake in breeding your bees in times past? I may be mistaken, but I believe one should avoid hybrids for breeders. I believe instead of breeding from the colony that gives you the greatest yield, you would do better to select the best of your pure—or as near as one can judge pure—stock.
>
> My experience and observation lead me to think that the progeny of mixed or grade stock of all kinds is rather variable and uncertain. And so I think that if we find most of the desirrble qualities in a pure stock of bees, they are more apt to transmit them than a mixed stock. And, further, it seems

to me we must select *one* chief characteristic if we want to improve our bees in that line. For instance, unless I am mistaken, you selected first for honey-gathering, and improved your bees in that line, but got cross bees on account of sacrificing everything for honey-gathering abilities. So I believe I could have practically non-swarmers today if I had put that trait first, regardless of any others.

But after you get your bees improved in one trait, why not, without letting them retrograde in that direction, select for another desirable trait in addition? E. S. MILES.

I have more than once said that if I had it to do over again I would breed from pure Italian stock, the reason for that being that by so doing I would have better-natured bees. Mr. Miles offers another reason for it that is well worth considering. It is that a pure breed is less given to variation, and so likely to transmit the good qualities desired. That is no doubt true. And yet is not variation the very thing we sometimes want? If there were no variation, would improvement be possible?

I am not a scientist, only a bee-keeper, and in talking about such things may easily get beyond my depth; but I'd like the chance to ask some questions with the privilege of having them answered by a thorough scientist who knows all about the matter of breeding for improvement. With the variations that come with hybrids, it so happens that I have had among them better storers than among pure stock. Others have had the same experience; notably J. E. Crane. But this superiority is not so certainly bequeathed to future generations as it is by pure stock. It will take more effort to fix the type with this variable stock than with pure stock. Now the question I want to ask is this: Admitting that it is harder to hold hybrids to the mark than pure stock, may it still not be possible that with the greater variation of hybrids I may get stock enough better so that the goal may be reached with them sooner than with pure blood?

The interesting question as to whether it is better to work for only one trait at a time is one I would like to see answered. On the face of it, it would look as if the answer should be in the affirmative. And yet I don't know. Suppose we want to work for gentleness and also for industry. We may select the best workers to breed from, and when we have a settled strain of extra-storers breed the ill-temper out of them. Or, we may select the best-tempered stock, without paying any attention to the crops gathered, and after getting a strain with angelic tempers, then pick for the best storers. While working for one of these traits, might it not be as well to pay at least a little attention to the other?

C. C. MILLER.

Long-Tongue Bees — and Other Things

On page 384 (1910), Mr. Byer asks some questions that seem to be directed to me, which I will try to answer, at least in part. Indeed, some of them practically covers the whole ground, and I hardly need answer anything else. Mr. Byer says:

> "One of the most essential parts of the bee's anatomy, no doubt of uniform size nearly all down through the centuries, has in the course of a few months by some marvellous, mysterious methods, been lengthened so that their proud owners could go poking into pastures that have been forbidden to their less fortunate predecessors for ages past."

Then comes the question: "Is not the mere assumption of such a possibility ridiculous, when we consider the matter seriously?" To that I answer unhesitatingly that to me there does not appear anything in the least ridiculous about it.

That answers the question, providing my opinion may be taken in the matter, but it would be just like you, Mr. Byer, to insist on knowing why I should have such an opinion. I'd just as soon tell you as not. You say, "no doubt of uniform size nearly all down through the centuries." Don't you know that able men who were entirely disinterested have measured the tongues of bees, and have told us that they are *not* of one size? But never mind that now.

Ever do much with roses, Mr. Byer? Lots of fun in it. Perhaps you know Jules Margottin, a hybrid remontant rose that made no pretensions to growing to an unusual height. Well, one day, not "in the course of a few months," but in the course of not many days, "by some marvelous, mysterious" force, a branch of one plant shot away above its fellows, and presto! there was the climbing Jules Margottin, which so competent an authority as H. B. Ellwanger commends highly as a pillar rose.

There's Baroness Rothschild, a rose of exquisite pink color. One year when I had one of my biggest crops of honey, G. Paul found on a Baroness Rothschild a bloom that was pure white, and since then you will find cataloged White Baroness.

Sports, of course. And I suppose I need not tell you that there are sports in the animal kingdom as well, although it is no doubt harder to perpetuate a sport in the animal world. Indeed, in a sense there would be no such a thing as improvement in our domestic animals were there no variation from the normal type, and that variation is what we call sport, when it is sudden and spontaneous. Indeed, you state the case very nicely, when, admitting a difference in measurement of tongues, you say, "I do believe most firmly that anything out of the ordinary was in the nature of a sport." To that you immediately add, "and that in few if any colonies was this characteristic perpetuated." And in that view I am entirely with you. After a few generations the characteristic faded out, or as Editor Root insists, there was the strong tendency to reversion to type, although he especially emphasizes it when referring to non-swarming. That, however, is a matter aside. It is not a question, just now, of the perpetuation, but of the possibility of such a variation as will allow one colony of bees all at once to have tongues of unusual length.

And now, Mr. Byer, let me, in turn, ask you a question. In view of pink suddenly turning white, and of the many changes that have occurred in the animal kingdom, do you think, when we consider the matter seriously, that there is anything ridiculous in the assumption of the possibility of finding a colony of bees with tongues so long "that their proud owners could go poking into pastures that have been forbidden to their less fortunate predecessors for ages past?" And if a man should find such a colony, do you think there is anything wrong in his saying so, whether he says it in private conversation or in an advertisement? And if he should say it in an advertisement, do you think you have a right to fling "humbug" at him, or class him a Karo man?

You say, "Not so very long ago the bee-papers were full of advertisers who claimed to have the genuine article, in so far as long tongues are concerned, and if it was the real thing they had, why the absence of said advertisements now?" Simply because they don't have them now. But that doesn't prove they didn't have them formerly. Like enough, too, when the bee-papers were full of advertisers, there were some who were not warranted in advertising, as is generally the case when anything new comes up, but does that justify classing all advertisers as humbugs?

You got of different breeders what were claimed as extra-long tongues, and you say, "so far as I could tell by close observation, not one of the claims was verified." Could you tell very much about it by close observation? You say they worked on red clover, and so did others. Are you ready to take your solemn "affydavy" that there were not 10 percent more of the long-tonguers in proportion to their numbers? Would you swear there were not 50 percent more? "So far as you could tell." But how far could you tell? Even suppose that there was not the slightest difference, and that the men you bought from were arrant scoundrels, does that leave it impossible that there could be any honest advertiser?

Working backward I now come to your first question. Shouldn't I "know better than to try to stir up mischief" in this way? Just so far as concerns long tongues, yes. It's not important enough. There have been tongues of unusual length, and will be again, and if sufficient pains were taken I don't see why it might not be made a permanent characteristic. But I don't believe it's worth while so long as we can more surely work at the other end and change the clover.

But there is involved another matter of vast importance. It is the whole matter of improvement in bees. I believe there are possibilities in that direction that few have dreamed of. I believe that every bee-keeper in the land may do something in that direction. And when any man arises to say, "Oh, you can't change anything in bees; they've always swarmed and always will; length of tongue is a fixed quantity; and the man who thinks he has stumbled on an improvement is a humbug," I want to stir up mischief for that man, and the better man he is the more mischief I'd like to make for him. So there now! C. C. M.

Bee Journal Saved Her $25

From following the instructive reading in the American Bee Journal for the year 1910, I have saved $25 on my bees.

MRS. A. A. GOOD.

Arlington, Wash., Dec. 17, 1910.

MISCELLANEOUS NEWS ITEMS

Our Front Page Pictures.—The upper picture on the first page of this copy of the American Bee Journal shows a 22-acre white-clover field belonging to Edw. H. Roth, of Strawberry Point, Iowa. It would be interesting to know just how many pounds of honey the blossoms of such a field would yield in one season. Perhaps Mr. Roth will tell us something about the results he gets from his bees.

Apiary of John P. Coburn

Referring to the lower picture on the front page, Mr. Coburn writes as follows:

> You will notice in the foreground a hive with the winter-case which I will describe. It is made to take 1 inch packing of cork-dust on the sides, 2 inches on the back end, and 1 inch on the front end; you will see how I let the cork dust run out. A piece of board ⅜ thick, 3 inches wide, is shoved in between the bottom-board of the hive and the stand, which, when properly in, holds it in place and keeps the cork-dust in. When it gets warm enough the cork is removed by lifting or prying enough with the hive-tool to liberate this piece, and the cork runs out into a box made to receive it. I find by packing in this way that I seldom lose a colony in wintering.
>
> I have done nothing the last 11 years but work with the bees, and I shall be 78 years old if I live until March, 1911. I make my home with my only son at Woburn, Mass., where my apiary is located.
>
> I sell quite a lot of bees to go into cucumber hot-houses every spring. Last spring I sold out of my apiary 19 colonies for $145.50. Also several sent to me from Amherst, N. H.
>
> I packed for winter in my apiary 54 colonies, and I intend to return to Woburn about the middle of March, as that is about the time the sale of bees commences for the cucumber hot-houses. There is a great quantity of bees used for that purpose in the vicinity of Boston JOHN P. COBURN.

* * *

Bee-Keeping in China.—In the Daily Consular and Trade Reports for Feb. 16, 1911, under "Chinese Trade Notes," from Consul General Leo Bergholz, of Canton, China, appears this paragraph:

> The industrial taotai of Canton has given his sanction for the establishment of a company here for rearing bees and manufacturing commercial honey. This marks the introduction of a new industry among the Chinese which may develop to large proportions. Foreign honey has found a ready sale in this country, but little native honey has yet appeared on the market.

No doubt "manufacturing commercial honey" is the consul's way of saying that the honey will be produced by the bees. Surely there must be a big field in China for both the production and consumption of honey.

* * *

Two Little Corrections.—In the article by Messrs. Hildreth & Segelken, in our February issue, in the last paragraph on page 45, where they advise New York and Pennsylvania bee-keepers "to produce *extracted* buckwheat instead of *comb*," it should read, "to produce *more* extracted buckwheat instead of *comb*."

Also, at the top of the first column on page 46 of the same article, where the heading reads, "No. 1 White Comb Honey (So-Called)," it should read, "No. 2 White Comb Honey."

Short Course in Apiculture.—A short course for apiary instructors will be held at the Ontario Agricultural College, Guelph, Ont., Canada, May 1 to 6, 1911, for students and ex-students who have taken lectures on apiculture and wish some more advanced practical and scientific work to put them in the way of becoming trained apiary instructors. It is also open to bee-keepers who have gained their elementary knowledge in a more practical way.

The list of speakers includes the following: Morley Pettit, Provincial Apiarist; Prof. S. F. Edwards, Dr. E. F. Phillips (of Washington, D. C.), Prof. R. Harcourt, Prof. C. A. Zavitz, and Prof. H. H. LeDrew.

A copy of the program, which contains a full list of speakers and subjects to be discussed, may be had by applying to Mr. Morley Pettit, Provincial Apiarist, Guelph, Ont., Canada.

* * *

Apiarian Insurance in Austria.—An enterprising company in Austria insures bee-keepers against loss by fire, winds, floods, avalanches, damage to bees generally, even by theft by human bipeds, and losses caused by disease. The yearly assessment is only about one cent per colony of bees. I would not mind having my bees insured in that company, but I am afraid they would not accept foreign bees. Almost each year I lose some honey in out-yards by thieves. A year ago I gave them some honey before they got around to steal it. That time they let my bees alone. The past season they took the sections out of several supers and closed up the hives again, which was very clever, but cost me $10.—F. GREINER.

* * *

Denatured Sugar for Bees.—Austrian bee-keepers are feeding denatured sugar to their bees now. It is cheaper than ordinary sugar, in as much as the Austrian government does not levy any tax on it, the same as on denatured alcohol. This sugar is especially designed for feeding to bees, and is mixed with sand and sawdust to prevent its being used for human food. The "Bienenvater," Wien, Austria, says that some of their bee-keepers have fed this sugar, sand, sawdust and all, whereas they advise to strain the syrup made from it through a cloth. I do not think this is necessary; the bees will strain it themselves. Some kind of feeders might not work well when sand or sawdust is left in the syrup.—F. GREINER.

* * *

The Bee's Reason for Living.—"The house-fly is a carrier of disease; the spider seeks poison; but the bee has but one object in life—the transportation of argosies of golden sweetness from the wild world of Nature to the ceiled dining-rooms of civilized men."—EVERETT M. HILL, in "The Story the Crocus Told."

Bee-Keeping in South America.—An International Exposition of Agriculture was held in Buenos Ayres, S. A., in 1910. It is wonderful how little North America knows about South America and the progress of that country, and *vice versa*. Mr. C. P. Dadant sends in the following, which is of interest:

> I find in the "Abeille De L'Aisne," France, a report of the apiarian exhibit at the International Exposition of Agriculture, in Buenos-Ayres, in 1910. The countries represented in the exhibit of honey, beeswax, metheglin, etc., were Argentine Republic, Chili, Paraguay, Italy, and France. Thus two countries of Old Europe had an exhibit in a South American republic exposition, of which we in the United States did not even have notice.
>
> The Argentine Republic had on exhibition honey, beeswax, honey-vinegar, mead, bee-hives, and other apiarian supplies. The report concerning that exhibit is not very favorable, for it is said that most of the honey on exhibition was of an inferior quality with very few exceptions. It appears that most of the exhibit was made by the Rural Argentine Association.
>
> Chili had 14 exhibitors of honey and 7 of beeswax. The exhibit was good, the honey being of very good quality and well put up.
>
> Paraguay had but 2 exhibitors, with a fine lot of honey and beeswax.
>
> Italy had but one exhibit, but the honey of this lot was fine enough to draw a first prize.
>
> France had 22 exhibitors, under the management of Mr. Laurent-Opin, of Laon, France, who had made the trip for that purpose.
>
> The French exhibitors carried away 54 prizes or diplomas at this Exposition.
>
> Is it not time for the United States to pay a little more attention to what is going on in South America, and take an interest in its affairs? We correspond with Europe, and deal with the German and English speaking races, but our American cousins of the Southern Hemisphere are entirely disregarded by us. The Pan-American interests need to be looked into in bee-culture as well as in other things. C. P. DADANT.
>
> Hamilton, Ill.

* * *

A Bee-Keeper.—The following morsel appears in the German bee-journal, Praktischer Wegweiser fuer Bienenzuechter:

> "The largest bee-keeper in the world is Harrison of California, who has 6000 colonies of bees, and produces annually 220,000 pounds of honey."

The writer of that paragraph probably gave it in all good faith, but it would be interesting to know upon what foundation such an immense superstructure was built. The Harrison who has done such great things has certainly kept very quiet about it; but probably the veteran Harbison of California is meant, who at present has few if any bees; but did he ever reach 6000 colonies? We think he had less than 4000 colonies as a maximum number.

The modest thing in the story is the yield of honey. That 220,000 pounds makes the average for the 6000 colonies not quite 37 pounds per colony. Why not have the average per colony 200 pounds, and make the annual crop 1,200,000 pounds?

* * *

Aluminum Honey-Comb.—It is reported in Praktischer Wegweiser that combs are now made of aluminum, being no heavier than natural combs, which are promptly occupied by the bees for brood-rearing and storing. Some time ago metal combs were in use to a limited extent in this country, but we have heard nothing about them lately. The lightness of aluminum would seem to be a gain.

To Pennsylvania Bee-Keepers.— The following is for you. Please read, and then heed:

Pennsylvania Bee-Keepers, Listen!

At the last annual convention held in Philadelphia last fall, a committee was appointed to draft a Foul Brood Bill and present it to the legislature. The bill was drawn up and presented to both the State Horticultural Society and the State Board of Agriculture, which were in session in Harrisburg at the time. They sent the bill to their respective legislative committees, which reported them back favorably, after which it was endorsed by each body.

The bill was then placed in the hands of Representative Hibshman, who introduced it in the House. Mr. Hibshman is the Chairman of the Committee on Agriculture in the House. The bill was carefully drawn and everything possible so far has been done to facilitate its passage.

We want every bee-keeper in Pennsylvania to write to his Representative and Senator who are now at Harrisburg, and *urge* them to vote for this bill. If you do this every member in the legislature will receive a number of letters, and will see the importance of this legislation. We attempted to have a law passed twice before, and failed for some reason or other. Let us win out this time.

Dr. Phillips, of the Bureau of Entomology, Washington, D. C., reports that samples of American foul brood have been sent to him from 18 counties, and European foul brood from 29 counties out of the 67 in this State. A number of counties have not been heard from. This is sufficient evidence for alarm. If we fail to have State inspection, the disease is bound to wipe out our industry. *Now* is the time to get busy. *Write.* As soon as you have read this, write a letter to your representatives in each House, and tell them to support the bill.

Liverpool, Pa. H. C. Klinger.

It may be too late by the time the above is published, for the letters to do any good. Perhaps it would be well to drop a postal card to Mr. Klinger and find out, before writing to the members of the legislature.

◆

"Bee-Keepers' Gazette." — The first number of this new candidate for favor among bee-keepers is to hand. It has the same editor and publisher as the Irish Bee Journal, and to some extent the same contents. The Gazette, however, will endeavor to cater to the wider circle. It is gotten up in the same fine style as the Irish Bee Journal; which is saying much for it.

◆

To Colorado Bee-Keepers.—The Colorado State Bee-Keepers' Association has sent out the following letter to Colorado bee-keepers:

Fellow Bee-Keeper:—Write your legislator!

The Colorado State Bee-Keepers' Association has a bill before the legislature, now in session, to establish a Division of Apiary Investigation and Inspection under the supervision of the State Entomologist.

The bill provides for investigations in bee-culture, such as the introduction of nectar-secreting plants, better bred bees, and improvement in the methods of bee-culture. This is a work that will prove of great value to the State—work that has never been done here, but should have been started years ago.

Impress these points on the minds of your legislators, and write them at once.

1st. Centralize the work of inspection, utilizing the machinery of the State Entomologist's office and that of the Agricultural College, and placing this equipment at the disposal of this division.

2d. It will greatly increase the wealth of the State by increasing the production of honey through the introduction of honey-plants, better bred bees, and better methods.

3d. Hundreds of thousands of dollars worth of honey are shipped from the State every year, besides the great amounts sold in the home markets.

4th. Bee-diseases are prevalent throughout the State, and means must at once be taken for their eradication.

5th. This bill is recommended by the Department of Agriculture at Washington by the Agricultural College at Ft. Collins, and by every intelligent bee-keeper in the State.

6th. Tell all your legislators to support the "Bee-Keepers' Bill," placing the Division of Apiary Inspection and Investigation under the State Entomologist.

The Colorado State Bee-Keepers' Association is the originator of this bill, and it embraces the demands of the bee-keepers of the State.

Urging you to lose no time in writing your senator and representative on this question. I am, Yours for better bee-keeping,

Boulder, Colo. Wesley Foster, *Sec.*

P. S.—This work takes considerable money and the Asssociation needs the help of every bee-keeper, so send in you dollar for 1911 membership at once, and help along the various things the Association is doing to aid the bee-industry of Colorado. W. F.

As this letter did not arrive in time for our February number, it may now be too late for the requested letters to do any good. Better ask Mr. Foster before writing to the members of the legislature.

◆

Mr. J. L. Byer, the conductor of "Canadian Beedom," was very sick in January and February. His trouble was caused by grippe, and culminated in an abcess in the right sinus—what the doctors call the depressions in the skull just back of the eyes, we believe. Mr. Byer had a very serious time of it, but he began to mend early in February, and doubtless by this time is almost as good as new again. We are very glad to report his recovery, and trust, with his hosts of friends, that he may continue in good health.

◆

Foul Brood in the United States.— The United States Department of Agriculture sent us the following for publication on the

Work of Department on Bee-Diseases.

The honey-bee annually produces a crop of honey estimated at $20,000,000, and there are vast opportunities for increasing this output. The most serious handicap to bee-keeping in the United States is the fact that there are contagious diseases which attack the brood of the honey-bee. There are now recognized two such diseases, known as American foul brood and European foul brood. From data recently obtained by the United States Department of Agriculture, it is known that American foul brood exists in 282 counties in 37 States, and European foul brood in 160 counties in 24 States, and it is estimated conservatively that these diseases are causing a loss to the bee-keepers of the United States of at lease $1,000,000 annually. This estimate is based on the probable value of the colonies which die, and the approximate loss of crop due to the weakened condition of diseased colonies. The States in which the diseases are most prevlent are California, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Missouri, Nebraska, New Jersey, New York, Ohio, Pennsylvania, Texas, and Wisconsin, and it is unfortunate that these are the States in which honey-production is most profitable, making the future outlook of the bee-keeping industry so much the worse unless active measures are taken to control the diseases. Furthermore, the distribution of these diseases is by no means fully known, and they are constantly spreading.

The cause of American foul brood has been found by the Department to be a specified bacterium, and enough is known of the cause and nature of European foul brood (which is also a bacterial disease) to make it possible to issue reliable recommendations concerning treatment for both diseases. Both attack the developing brood, and as the adult bees die from old age or other causes, the colony becomes depleted since there are not enough young bees emerging to keep up the numbers. When the colony becomes weak, bees from other colonies enter to rob the honey, and the infection is spread.

Both of these diseases can be controlled with comparative ease by the progressive bee-keeper, but the chief difficulty encountered in combating these diseases is the fact that the majority of bee-keepers are unaware that any such diseases exist; they, therefore, often attribute their losses to other sources, and nothing is done to prevent the spread of the infection. It is therefore necessary in most cases to point out the existence and nature of the diseases, as well as to spread information concerning the best methods of treatment. Several States have passed laws providing for the inspection of apiaries for disease, and the bee-keepers in other States are asking for the same protection, so that careless or ignorant bee-keepers can be prevented from endangering their neighbor's bees. This inspection is a benefit in the spread of information concerning disease, in so far as the inspectors can cover the territory. The Department of Agriculture is helping in this work by sending out publications to the bee-keepers in infected regions, by examining samples of brood suspected of disease, and by sending out information concerning the presence of disease, so that bee-keepers will be informed that their apiaries are in danger. The co-operation of agricultural colleges, State bee-keepers' associations, and other similar agencies is being urged.

In view of the fact that these diseases are so widespread, every person interested in bee-keeping should find out as soon as possible how to recognize and treat these maladies, and be on the lookout for them. A publication containing a discussion of the nature of these diseases and their treatment will be sent on request to the Department of Agriculture.

U. S. Department of Agriculture,
Division of Publications,
Jos. A. Arnold, *Editor and Chief.*
Washington, D. C., Dec. 6, 1910.

We imagine that few of our readers realize the extent and importance of the work the Department of Agriculture at Washington, D. C., is doing in the interest of bee-keepers. Surely the most hearty co-operation on the part of the bee-keepers themselves should be given so that the results to be obtained by the efforts of the Department may be of the largest service to the industry of bee-keeping. The Department is anxious to do its part, and without expense to bee-keepers, in whatever will be of most value and aid to bee-culture.

◆

Shiber's Honey-Strainer. — Geo. Shiber has a plan that seems well worth trying. He says in Gleanings:

Over the top of my tank I place a sheet of wire-cloth, same as that used on windows, and tie it tightly around the top with strong cord, at the same time pressing it down in the middle. Over this I put one end of a 5-yard length of white cheese-cloth, the part not in use rolled up at the side of the tank. Warm honey will go through this rapidly when the cloth is clean, but, of course, it soon gets clogged. Just as soon as this happens we pull the cloth along, bringing a new clean surface over the tank, and then roll up the clogged portion on the other side of the tank. When one 5-yard piece is used up we put another one in its place. We never bother with the old cloth again, nor try to clean it for further straining.

◆

Melting Injures Honey in Cappings.— W. A. Chrysler says in the Canadian Bee Journal:

All honey, when melted with cappings or comb, will take on the flavor and the color that wax, smoker-smoke, and probably other minor substances, such as travel-stain, etc., will give it. Overheating has been suggested many times as being the cause of darkening the honey and affecting its flavor. From my experience I am thoroughly satisfied that the honey will be darkened in color and changed in flavor even if not overheated.

Unless cappings can be in some way pressed cold, we may always expect capping honey necessarily to be kept separate from our other honey, and sold on its merits.

Sketches Of Beedomites

Wesley Foster

The subject of this sketch started bee-keeping two generations before he was born, and with such a record it is not strange that he has been kept irresistibly in the straight and narrow path marked out by the honey-bee. He was early enticed to this busy worker, by testing her sweetened product at the capping-box in the extracting-room, and his joy in her service was complete when at 6 years of age he earned the munificent sum of one cent an hour for nailing section-holders! At 9 he entered the secret chamber of man's sovereignity when he hived a swarm of bees barefoot.

While going through the high school he paid most of his expenses by assisting his father in the care of the bee-yards, and at 18, in partnership with his brother, borrowed $500 to purchase 140 colonies of bees, and paid for them the first season, with money left over for the bank account. At that time the boys were managing about 350 colonies, always running the bees for comb honey.

At the present time Mr. Foster is Secretary of the Colorado State Bee-Keepers' Association, and having ancestry, youth and ambition as his assets, there seems to be no doubt that he will do his best to make a bee-line for success in his chosen field.

Mrs. Wesley Foster.

[Well, that's good so far as it goes, Mrs. Foster. But you have left us to imagine a whole lot.

Mr. Foster surely has been keeping bees a long time if he has been at it "two generations before he was born!" No wonder you failed to say how old he is; nor when he was married, etc. But, then, we have his picture, so it will not be difficult to "estimate" several things.

Mr. Foster conducts the "Far Western Bee-Keeping" department of the American Bee Journal, and no doubt from time to time he will let in further rays of light upon his career, which has been so closely identified with bee-keeping for a century or more, according to Mrs. Foster's statement.—Ed.]

Wesley Foster.

Bee-Keeping For Women

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Discouraged Through Foul Brood

I have been somewhat discouraged with the bees, as I have been trying to fight foul brood for two years. I think I have it about conquered, when it will leak out again, as there are neighbors whose bees have the disease. They do not take care of their bees, and do not know what is the matter with them.

Mrs. L. Mack.

Three Rivers, Mich., Feb. 20.

Possibly you may learn to look upon foul brood as a blessing in disguise. Your careless neighbors who do not take care of their bees, and do not know what is the matter with them, are likely to be the ones who spoil your market by selling honey for away below a decent price. Sooner or later the disease will probably drive them out of business, while you can keep on and produce crops in spite of the disease.

We don't dread foul brood as we did. To be sure, it did look somewhat discouraging to have more than half a hundred colonies on the bad list, and we surely had a time of it, but then it looked worth all the trouble when last year we got several tons of beautiful honey. Don't be in too much of a hurry to be discouraged, sister.

Bee-Stings and Color of Clothing

Difference of opinion continues as to whether bees are more likely to sting through dark than light clothing. In the nature of the case it is hard to offer proof that bees are indifferent to colors. If one should have on one hand a white glove, and on the other a black one, and neither were stung, of course there would be no proof either way. If both were stung alike, it would look like proof of indifference on the part of the bees, yet still it might be said that when bees are cross enough they will sting any kind of color, dark or light. And so they will. But if the dark glove receives more stings than the white one, and that occurs not once, but at different times, it looks a good deal like proof that bees feel more antagonistic toward black than white. In this locality the proofs have appeared sufficiently strong to make it seem advisable to wear light clothing when working with the bees.

Mrs. M. E. Pruitt seems to have made good use of her powers of observation, and when she finds bees selecting the black spots of a black and white cow, and the dark chickens in a flock of dark and light ones, one can hardly blame her for thinking bees more likely to sting dark than light colors. She says in Gleanings in Bee Culture:

> On one occasion we had dealings with an enraged colony, and I thought I would just pull a couple of black stockings over my hands not being able to find my gloves at the moment) so that I could replace a couple of frames and put on the cover so that they would not so easily detect the scent of stings already received. Oh, how I wished I hadn't! They just simply covered my hands; and when I retired from the field the color of my "gloves" was changed from black to pepper-and-salt.
>
> The year before last I was wearing a navy-blue skirt, and the bees seemed to delight in puncturing it. I changed the navy-blue for a light tan, and all was peace.
>
> We have a Holstein cow, and every time she passes by the yard, and the bees are irritated, they invariably make for the black spots.
>
> When we are hitching up the sorrel and the bay horse I notice they begin operations on the black mane of the bay. When we have the black horse and one of the others together, the black comes in for the most points.
>
> Our white chickens are not molested when scratching in the yard; but the Minorcas are allowed to stay hardly long enough to locate a hunting-ground.
>
> When bees want to sting a person they generally make for the shaded parts, such as about the eyebrows, behind the ears and in the nostrils; and, oh, what a tender spot that is!

Qneen Shooing the Bees to Work

One of the 6 colonies of bees in my apiary seems to be on a continual hustle, the bees turning double somersaults on the board when alighting, they are in such a hurry to get to the hives with their cargo of honey. The queen is one I got in connection with a bee-paper, and it seems I can hear her shooing the bees out to work, telling them that their owner is a hustler herself, and that they must be the same. The other 5 colonies are not such hustlers, and will be beggars before spring.

Ohio Bee-Woman.

(Season of 1910.)

Foul Brood—Cause and Cure

Dear Sister Bee-Keepers:—It seems a long while since we have had a paper talk together; though I've read carefully and with much interest the doings and experiences as related in our corner.

It is certainly very pleasant to know the little items of peculiar importance in our various climates and localities that are reported, and the expedients resorted to in emergencies, and the enthusiasm and enjoyment derived from our apiary work. These "experiences" have a decidedly exhilerating effect on the reader: the successes make us ache to "go and do likewise" (and, if possible—one better! Or, if it's embarassment and disaster, we take the lesson home and avoid it, or we are warned.

I was much exercised last season over the foul-brood problem; for the reason that our heaviest bee-man in this section has lost, and still is losing, severely from this pest. Recently I have learned that in the season of 1008 his bees began to be troubled with foul brood, and that in 1909 it began north of us, via Ogdensburg, Malone, and so on to Champlain; and toward the last of the past summer (1910) it reached us within 2 miles; so I'm shivering over my probable fate this year, and one reason for this talk is to get your advice concerning what my "ounce of prevention" is to be.

This big bee-man had nearly 400 colonies in out-yards within a radius of about 8 miles. He lost about 100 colonies in 1909 and last year less than 100 were left, and he feels sure the spring will show up a still further big deficit. Another farmer—the one but 2 miles from me—has lost his entire apiary of some 30 colonies.

I've read very carefully the December article on foul brood in the American Bee Journal, but would like to know if there is anything I can do as a prevention beyond examining the combs faithfully, and promptly stamping the disease out as soon as discovered by burning the combs or disinfecting them.

"Clovernook Apiary" has always been so healthy in all its 30 years of existence, and we had such a grand honey record last season, that it quite breaks the Mistress' heart to contemplate what she is liable to face in nastiness this year.

I have never read the cause of foul brood explained; but have supposed it due to unsanitary conditions somewhere in the neighborhood of the bees. For example, our big bee-man's home yard was near his cider-press, where the bees had access to an immense amount of all sorts of decaying pulp. We had a creamery near us where the refuse, and in fact an immense amount of all sorts of decayed matter, was dumped into our river washing the foot of Clovernook, and where our bees drank. I would like to know if unsanitary conditions do endanger bees as well as human and animal life.

Again, I've never read exactly how foul brood is disseminated, and will be glad to know if my theory as follows is correct:

I have judged that the food for the larvæ held the germ of the disease (gathered as just suggested), and death and corruption ensued. The bees crawling over the infected sections carried out into the field on their hairy legs the poison which tainted every blossom into which they crawled, for the undoing of the next bee alighting there.

Am I correct? Is this how the contagion spreads? and would it do any good to keep the entrance-boards of every hive and the combs washed with antiseptics? If so, what antiseptic would be best?

Chazy, N. Y. FRANCES E. WHEELER.

Bee-keepers in this country do not make use of any preventive measures against foul brood, unless it be to keep all colonies strong. In England it is the practice to use drugs by way of prevention. Cowan's "British Bee-Keeper's Guide-Book" says:

> "Naphthaline in balls is generally used; two of these split in half being the proper dose. The pieces are placed on the floor-board of the hive in the corner farthest from the entrance. The temperature of the hive causes the naphthaline to evaporate, and it must therefore be renewed as required. All syrup used for feeding should also be medicated with naphthol beta."

But in this country it is the general belief that drugs are useless. Many here are emphatic in the belief that Italians resist the encroachments of the disease much better than blacks, and for those that have blacks or hybrids it might be said that Italianizing is a preventive measure.

Although scientists are none too well agreed as to just what particular bacillus causes the disease, all are agreed that the disease is due to the presence of a bacillus. Without the presence of that bacillus no amount of uncleanliness or unsanitary conditions can produce foul brood, any more than a field of corn-plants can be grown without having grains of corn as seed. Indirectly, unsanitary conditions may have something to do with favoring the advancement of foul brood *if* the germs of the disease—the bacilli—are present.

No, it is not believed that the disease is carried by the feet of the bees, nor that the flowers have any part in its dissemination. It is believed that a healthy colony "catches" the disease by carrying honey from a diseased colony, the honey containing some of the bacilli.

It will be well for you to inform yourself in advance as to whether the disease that threatens you is American foul brood or European. After brood-rearing begins in the spring, if you or the bee-keeper who has the disease will send a piece of comb containing diseased brood to Dr. E. F. Phillips, Department of Agriculture, Washington, D. C., he will give you, without cost, information as to what the disease really is. If you write him in advance, he will send you a proper package in which to mail the comb, as also a frank to pay the postage.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

The Weather and the Bees.

We had such warm weather in January that the maples came out in bloom, and for a week or 10 days the bees were busy carrying in pollen. This has been a strange winter—scarcely any snow, and the last pollen I saw brought in, in the fall, was Dec. 10. That is not fall, but it was fall weather, all right. And in spite of this open winter, we did have a few days in early January when the thermometer registered 18 degrees below zero. Our position on the east side of the mountains, snuggled right up against the foothills, where Boulder canyon flattens out into Boulder valley, is one that is well protected, and gets the full benefit of the sun's rays. But the high range to the west of us has stormy, wintry clouds hovering over it most of the time, and it is not an uncommon thing for these storms to send out little runners that enthrall us for a few days in a genuine winter cold-snap.

Bee-Territory in the West

If we could just get up above the earth high enough so that we could see the area of cultivated land in comparison with the uncultivated prairies, mountain slopes, etc., here in the West—say of Colorado, New Mexico, Arizona, Utah, Wyoming, Idaho and Nevada—I think we would get a new conception of this country. Why! the cultivated and irrigated land would be so small in area that we could see only little spots here and there of green alfalfa fields and orchards. We would see a thin, narrow ribbon hardly discernible from our great height, where the Arkansas River valley lies with its great wealth of agricultural products when viewed at closer range. Then farther to the north we could see a larger spot of green, which would be the northern Colorado district, the largest area of irrigated land in one body in the United States. Toward the western part of the State, on the western slope of the mountains, would be found a good many fine tracings, and these are the narrow valleys which are under a high state of cultivation, but small in extent except when taken in the aggregate. Not one-twentieth of the State would be seen under cultivation.

Looking over farther west we would see most of Utah a dry, barren waste of mountain range and sage-brush plain; but here and there would be spots of green and a few narrow green ribbon-like valleys, wider in some places and very narrow in others. In the whole view below us would be found these round and oblong and every shaped green spots interspersed with fine ribbons of valleys. We would see some fairly large spots in Idaho, smaller ones in Wyoming, and here and there some in Arizona and New Mexico. If we were comparing this great expanse with the Eastern States we would find it to be pretty dry.

After getting such a comprehensive view as this we would realize that the larger part of the West will always remain unprofitable as bee-range, but there are new fields for the bee-keeper being opened up all the time, and these make room for new ones every year. The Western States never will have the close cultivation that the Middle States have, but the land that is brought under tillage takes first place among any competitors. These little valleys are all different; they each have their special crop for which they are renowned. Grand valley has its peaches and apples; the Arkansas valley its cantaloupes, etc.; but they all grow alfalfa.

The Colorado State Convention

In spite of the failure of the honey crop throughout northern Colorado a goodly number of bee-keepers from this part of the State were at the convention. The southern part of the State was represented by several bee-men, and also several came from the western slope. The meeting was a success in every way, and the work outlined, if carried out, will certainly aid the bee-industry of the State very materially.

There are two lines of discussion that come up at every convention. They are, How to get a better price for the product, or a larger share of the consumer's dollar; and the methods of handling bees to get a larger return from each colony in pounds of honey.

GETTING BETTER HONEY-PRICES.

How to get more for the product was the first thing that came up in the question-box, and the subject elicited lively discussion. The facts brought out were, that the producer was getting about 35 cents of the consumer's dollar in extracted honey and 40 to 50 cents in comb honey. The railroads came in for an undue amount for freight, and the cost of bee-supplies keeps steadily advancing so that the profits are not what they should be. The freight-rate on honey by the car-load is about 4 times what it is on potatoes a like distance. The Association has outlined work for the coming year that will, if carried through, bring about a more equitable rate on honey shipments. The fault lies quite largely with the bee-keepers themselves, in not calling these unfair rates to the attention of the railroads.

QUEEN-REARING AT HOME.

Mr. Herman Rauchfuss gave a valuable, practical talk on good queens and proper hive manipulations; he advocated wintering bees in 2-story hives, even if doubling up the colonies had to be done. In this way old queens could be gotten rid of, and the strength of each colony would be such that it could well withstand the severe conditions of winter.

Mr. Rauchfuss made a strong point in advocating rearing one's own queens in his own yards, and keeping each queen among the bees where she was reared. The introduction of queens into strange hives is the cause of many a fine queen soon deteriorating. While the bees do not kill her, they see that in some way she is not at home, and keep fussing and pulling away at her until many of them become bald and devoid of hair. A queen that is being continually worried will never do much good work. When each bee-keeper rears his own queens, it is easy to keep each queen among her own "home folks," and under these conditions she is contented, and does her best work.

SHIPPING-CASES FOR COMB HONEY.

For a long time the Western bee-keepers have been "put out" by the dozens of different sizes of shipping-cases for comb honey that have been sold. The trouble does not become apparent until a half-dozen or so of bee-keepers go to load a car of honey. The cases simply will not load compactly at all; some are ¼ inch wider than others; some are longer, and no two are the same depth, although they may all be double tier and hold 24 sections. We are now going to have a uniform case if the efforts of Mr. Frank Rauchfuss, manager of the Colorado Honey-Producers' Association materialize. The uniform size for cases, as suggested by Mr. Rauchfuss, was unanimously endorsed by the State Association.

SHIPPING COMB HONEY.

Mr. Rauchfuss also gave some pointed remarks on local shipments of comb honey. Every shipment of comb honey going locally should be crated in carrier crates holding 4 or 8 cases, and packed with straw. It will not be long until comb honey so crated will take a lower rate, and then no intelligent bee-keeper will fail to crate his honey properly for shipping. Mr. Rauchfuss said that he had not received a shipment of comb honey that came through safely uncrated.

OLD-TIME BEE-KEEPING.

The most entertaining feature of the convention was the evening of reminiscence in bee-culture led by Mr. A. F. Foster and others of the gray-whiskered veterans who had 50 years and more of bee-keeping to their credit. They told of the old-fashioned ways of bee-keeping, and how good the honey tasted in those days; how they robbed the hives, and plugged the hives to see if they were ripe, like we do now with watermelons.

ANATOMY OF THE BEE.

Pres. Collins and Prof. Gillette each exhibited stereopticon views of the bee's anatomy, work and methods, and made us much better acquainted with bees, the way they are built, and the ready-made tools they are born with.

FOUL BROOD LAW AND BEE-INVESTIGATION

The Association is making an effort to get a more effective foul brood law, and also to have a division of bee-investigation established at the Agricultural College. This subject was thoroughly gone over, and the legislative committee has a bill introduced in the legislature to establish a division of bee-inspection and investigation under the State Entomologist. This will centralize the work of the State bee-work under a very competent man, and every bee-man is urged to write his senator and represenative to support the "Bee-Keepers' Bill."

The State Entomologist will hire deputies to carry on the work of inspection and investigation, and the work will be prosecuted with vigor. The work that will be carried on in bringing in new and better honey-plants, and better bees, and the investigation of methods for the advancement of the industry, will be invaluable to the State.

BEES AND FLOWERS.

Prof. Cockerell, of the University of Colorado, gave a delightful talk on "The Evolution of the Bee," and brought out the relationship of all insect life and their influence on flowers and vegetation. The bee is older than man by several million years, and reaches up into the almost perfect development of the honey-bee in only about a dozen species, while the cruder and more primitive wild bee is found in thousands of species. The honey-bee is the last word in all bee-life, and has become so firmly established in her position that little change has taken place in her characteristics in three or four million years.

WORK OF THE ASSOCIATION.

The work of the State Bee-Keepers' Association for the coming year will be to secure the reduction of freight-rates on bees and honey, and the securing of a new foul brood law. Right now is the time for every bee-keeper in the State to join, so that the dollar from each member will be available for immediate work. If we secure but a part of the results we are going after it will be worth many times one dollar to every bee-keeper in the State. So send your dollar for membership to the secretary, Wesley C. Foster, Boulder, Colo., at once, and urge all your fellow bee-keepers to do the same. We are making the fight for *you*, and we can not do it without some help from you.

WESLEY FOSTER, *Sec.*

Boulder, Colo.

CANADIAN BEEDOM

Conducted by J. L. BYER, Mt. Joy, Ontario.

Co-operation Among Ontario Bee-Keepers

The Canadian Bee Journal has the following to say for the co-operative movement among bee-keepers here in Ontario:

> "Mr. W. A. Chrysler, chairman of the committee having in charge the plans for the organization of a co-operative association, writes us that the committee expects to be successful in arranging matters so as to handle the crop of 1911. We feel sure that the affair will be brought to a successful issue when in the hands of Mr. Chrysler and Arthur Lang—they are hustlers."

Doubtless this was written before the recent tariff arrangements were made public. I fear, if the suggested changes on the duty on honey become law, complications will arise that we have not thought of. In like manner the work of the Honey Crop Committee of the Ontario Association will also be greatly increased, for instead of having to take into consideration the crop of Ontario and the eastern Provinces, the whole of the United States will have to be taken into calculation.

Owing to illness, I was not able to attend the recent convention held in Brantford, so I do not know as to what was the attitude of the bee-keepers assembled there regarding the change in tariff on honey, but judging from the letters reaching me continually, practically all of the producers on this side of the line are not at all pleased with the suggested changes. Personally, I feel that Canadian bee-keepers have much to lose, and nothing to gain, by honey being being put on the free list; but if the powers that be, decide to put it that way, we will have to take our medicine with as good grace as is possible under the circumstances. One of the provoking features of the measure is that it was entirely unexpected, as none of us thought of such a thing, as there being such a radical change made at the present time.

If the measure does become law, one thing is certain, the interests of the bee-keepers of the two countries will practically be the same, and it would naturally be the means of a closer drawing together of all interested in pursuit.

Bees Curing Themselves of Foul Brood

In reference to Henry Stewart's article about bees curing themselves of American foul brood (page 47), I would say that when Mr. Stewart made his claims along that line in another bee-paper recently, I felt prompted to write an answer to him. As I did not do so then, I can not refrain at the present time from putting myself on record as believing positively that his claims can not be substantiated; and with Mr. Dadant and others I am firmly convinced that a comb once diseased with American foul brood is *always* diseased until it is melted or destroyed in some other way.

Bees Under Snow in Winter

With much interest and considerable surprise I have read what Mr. Doolittle has to say (page 49) regarding bees being covered over with snow in the winter-time. Here in Ontario bee-keepers differ as to whether it is a good practice or not, but the very fact of there being a difference of opinion among extensive producers, proves that here no such disastrous results occur as Mr. Doolittle chronicles in his experience.

Personally, I have had colonies covered over for months, and winter excellently, but in common practice I like to have the entrances clear, especially after the middle of February.

Some years ago, a friend of mine had a number of strong colonies drift over with snow, during a storm about the middle of April, and being left for a day or two in that condition, some of the colonies actually smothered. Of course, this was an extreme case, as the bees were very strong and had lots of brood in the combs at the time. With a space all around the hive free from snow, as Mr. Doolittle mentions, I would consider the bees in splendid shape for wintering, as the snow all around would give protection, and yet plenty of air would be available for the bees.

This winter we have had but little snow, but about 10 days ago a bad storm from the east prevailed all day. At the Altona yard the east end is sheltered by a tall row of evergreens, and from past experience I know that a number of colonies will be completely covered over. I have not been to the apiary for 8 weeks, and I am not worrying about those colonies in the least. However, today (Feb. 18) it is quite mild, and I have 'phoned to the farmer on whose place the bees are, to shovel the snow away from the hive-entrances. If the weather had remained cold I would have left them alone for a while yet.

A few years ago, at this same yard, the snow drifted among the bees so that every hive was covered about Feb. 1st—in fact, the snow in places was 6 feet deep among the apple-trees where the bees are located. The hive-entrances were opened after every storm as soon as possible, and about March 25th the bees had a good flight.

About a month later I was at the yard again, and was much chagrined to notice that I had entirely overlooked a colony near the fence at the east end of the yard where the snow had been very deep. The hive was still covered over with the exception that one corner of the case was beginning to show through the snow. The day was quite warm, and the bees flying freely from all the other hives, and as I went to the barn for a shovel, I felt sure that the bees would be dead—had no doubt about the matter at all. As I began to shovel the snow away, I found things just as Mr. Doolittle describes—all around the hive the snow was melted, and in front there was a space big enough for a bushel basket. Were the bees dead? Not a bit of it, and they seemed in no hurry to get out, either. They were in perfect condition, and that colony was one of the best in the apiary that season. In this case the colony had been entirely covered with snow for nearly 3 months, and yet no harm was done.

I will not attempt to explain why there were such different results in Mr. Doolittle's experience, but certainly I do not worry any if the snow is over the hives during cold weather, especially if I am sure that the hive-entrances are clear of snow.

Bees Have No Flight in 4 Months

This is Feb. 19, and the bees on the summer stands have had no flight since the latter part of October. A few colonies show signs of dysentery, but if a flight is possible inside of 2 or 3 weeks, I look for fair wintering, after all. A short time now will tell the tale, and when writing for next month I hope to be able to say, "Bees had a fine flight on ——."

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

Pleasures of the Bee-Business

Since the last article it has been quite cold several times, and we have had to confine our work to our shop-work. This is one advantage the bee-keeper has over many others, and that is a thing that we appreciate about the bee-keeping business more than anything else, except the "paying part of it," which, of course, naturally comes first, as it is the thing that brings us the bread and butter part of the business. But just as important are the joys obtained in any business, and if the bee-keeper manages rightly he will find that he is a fortunate creature indeed, blessed with advantages that are not possessed by a great many who work hard for their daily bread. Therefore it should not only be the main question to consider when one inquires about the bee-keeping business as to whether it is a paying proposition, from a monetary standpoint alone.

Bee-Keeping a Healthful Field of Work

Besides being a paying proposition I have found it a field of work that will give one good health and long life, if followed rightly. One of the main features in this connection is the fact that one can go out and enjoy himself in the fresh air and sunshine while he is engaged with the daily work with the bees, thereby earning the necessaries of life at the same time. Then, when the weather is such that it is not well to go out, the indoor work, or no work at all, is quite an item. The work in the shop, especially if this is a comfortable one, is quite a relief, for a change if indoor work is enjoyed for a while. I will show my shop and honey-house next month.

Cold Weather and Condition of Bees

Although the cold weather was very severe it has not done very much harm to the bees. One of the main reasons was that they were all in very good shape, strong and vigorous, and with plenty of stores. This point alone is worth its weight in gold, and it is therefore a thing that receives a lot of my attention at the proper time. To have the bees go into winter quarters in the fall so that they will have amply sufficient, not only for the winter requirements, but long into the following spring, is a consolation that makes one feel good. And it is only another one of the things that adds to the enjoyment and the good health of the bee-keeper.

It is surprising how much cold a colony of bees can stand if it is in prime condition, and with a lot of honey to live on. So my bees are in fine shape for the coming season, and if everything else turns out favorably the prospects for a good crop are very fair. We have had very good rains in most parts of the State, and a good honey harvest generally would liven things up to the tune of yore.

The River-Bottom String of Apiaries

It is often said that it is folly to spread out too much, but when we consider the advisability of keeping more bees, it becomes apparent that we must necessarily do this very thing. This is what I did years ago. My apiaries that

Waiting for Their Weekly Pay at the Plantation Headquarters.

are located in the great valleys of the Brazos River, on the extensive cotton plantations, more than 150 miles away, are not only a paying proposition, but I have gotten my delights out of the venture. Although I have experienced "some tough times" occasionally, when things did not seem to turn out just as they should have done—according to my notion at least—I have enjoyed it all. The last few years the honey crops have reached into tens of tons in those apiaries alone, and this in addition to the string of apiaries here is not so bad.

Some Things Not Exactly Bees

Some of the things mentioned today are "not exactly bees," but it is such a valuable adjunct to the bee-business, and especially to the bee-keepers' welfare, both from a health as well as a financial point of view, that I have mentioned them in this article. Some other things that are not exactly bees, and which one sees when taking a trip to the Brazos River valley apiaries, are the plantation scenes that exist there, which reminds one of the stories of old that we used to read about—the old, contented darkies on the great plantations, in their quarters in the "cotton patch," at the "commissary," the pay-window, and, in fact, all over the place. It is quite a change to see these when I make my trips for a short stay at the apiaries there. Then I meet the various superintendents of the many plantations, and these are jovial and hospitable fellows, who have always treated me very kindly, and made me feel at home with them. One of these is shown on his favorite horse, ready to go out on his daily trip of inspection over the several-thousand-acre plantation. His duties are many, and I often wonder how he can manage so successfully the great number of negro employes on the plantation.

Another picture shows a lot of negroes who are waiting for their weekly pay, so they can procure their "rations" from the "commissary." This is only part of the number on the plantation, as they keep coming and going as they get their pay.

In some future issue I will show the readers a map of my operations there, with the locations of the apiaries, the headquarters located centrally so that all the yards are within easy reach at any time. This is an important point to be considered in extensive out-yard management. Hoping that it may help others in some way, at least, is why I will endeavor to write this subject up later.

A Superintendent on a Several-Thousand-Acre Brazos River Valley Cotton Plantation.

Early Brood-Rearing, Honey-Prices, Etc.

Bees have been bringing in new pollen very rapidly for the past 3 weeks, and now many colonies have hatching brood. We expect though, later, to have hard freezing weather, as February is often our coldest month, and bees would be better off without this early brood-rearing in this locality. To give an idea of how far the bees are advanced here this unusually warm weather, I cut a "bee-tree" today that had sheets of brood two feet long, with considerable capped drone-brood. How is that for early brood-rearing?

PRICES OF HONEY IN TEXAS.

Mr. Scholl, you are right when you contend the price of honey—both bulk-comb and extracted—is not as low as some would have us believe. My selling price for a good article of honey has always been 8 cents a pound for extracted honey, and 11 cents a pound for bulk-comb honey, put up in 60-pound cans, and I have never yet had all the good honey I could sell in a season. While my selling price has been much lower the past season than the above, the quality of the honey has also been much lower, badly mixed with honey-dew; but for all that, I sold over 13,000 pounds the past fall and winter, and I could have sold more than double that amount. I don't know how it is in other States, but we have a good market and at good prices, too, if we will only ask it.

UNITING COLONIES.

A good way to unite bees is this: Select a day that is quite cool, but not freezing, when but few if any bees are flying. Place an empty hive on the stand you wish the colony to occupy. Place the colonies you wish to unite near the hive prepared for them; take a frame of bees and all, first from one and then the other, and place in the new hive you wish the colony to occupy. Try to get the frames that have the most bees on them. Continue this until you have the hive filled with frames; of course, using enough smoke to keep the bees from flying at you during the operation.

When the hive is filled with frames, give all a good smoking, set an empty super on top, and shake and brush the remainder of the bees from the old hives into the new hive, taking a frame first from one and then from the other.

When all is done, remove the super, give the bees another smoking, close up the hive, and the work is done. If there is a choice of queens, the other should be removed before the uniting is done, otherwise the bees will settle that themselves.

The above, of course, is not new, but it has worked so well with me, and is so very easy and simple, that I thought it would be worth repeating here.

Rescue, Tex., Feb. 5. L. B. SMITH.

Little Robert, aged 9, had been bathing in the Abenakis River all through the dog days. His liver was waterlogged and he was off his feed. His mother, being anxious, asked.

"Could you eat honey in the comb, Bob?"

The lad lifted his big brown eyes to his mother's face, and answered:

"Could I? Why, I could eat it in a hair-brush."

CONTRIBUTED ARTICLES

Improvement in Honey-Bees

BY E. S. MILES.

The desirability of improvement in honey-bees is probably conceded by all. There may be a question of the possibility in some minds, but a glance at some of our leading bee-keepers' views should modify any doubts in that direction.

Let us begin by consulting G. M. Doolittle, who says on page 154 of his book, "Scientific Queen-Rearing:"

> "By crossing the best specimens of my home-bred stock with similar specimens from different apiaries from 100 to 1000 miles from me, I have succeeded in securing bees of the Italian race which are far more constant in color than any I could get 10 years ago; while at the same time my bees have vastly *improved* as to their working qualities."

On page 71 of "Alexander's Writings on Practical Bee-Culture," Mr. Alexander says:

> "You all know that a few years ago the A. I. Root Co. told us that they had found in one of their apiaries a queen whose bees gathered far more honey than any other colony, and that they saw such a decided difference in favor of this queen and her bees that they valued her at $200.00 for breeding purposes. Now, as I was fortunate enough to get 100 grand-daughters of this $200.00 queen, and having those 100 queens in our apiary for 3 seasons, I am sure I know something of their real value. First, we have had very few natural swarms from those queens—I don't think over 20 from the 100 colonies during the 3 summers; and when extracting we have always had very heavy combs from those bees, usually of nice, light honey, even when our buckwheat was in full bloom. I am sure, therefore, that the blood we now have in our apiary from that $200.00 red-clover queen has given us several tons of additional surplus honey."

In "Advanced Bee-Culture," pages 31 and 32, Mr. Hutchinson says:

> "In brief, if I were to engage in the production of either comb or extracted honey, I should adopt pure Italians; then, by selection in breeding, get rid of the undesirable traits, such as 'watery' cappings of the honey, inclination to build large quantities of brace-combs, undue swarming, etc. Every bee-keeper of experience who has tried different strains of bees, knows there is a great difference between different strains of even the same variety. A bee-keeper who is just starting in the business, or one already in the business who has not taken such a course, ought to get queens from several of the best breeders, then adopt some easily kept but comprehensive system of recording the traits and peculiarities of each colony. * * * If the bees of any colony prove vindictive, requeen it. If the bees of another colony are poor comb-builders, or cap their honey poorly, destroy the queen and give them another. Do the same if they build large quantities of 'brace-combs,' or if they are unduly given to swarming, or if they are poor honey-gatherers, or do not winter well. On the other hand, the desirable traits should be watched for and recorded, and queens reared from the queens of such colonies. Care ought also to be taken that no drones are reared or allowed to fly from undesirable stock, and pains taken to rear them in goodly numbers from the best colonies in the apiary. By pursuing this course the bee-keeper will eventually build up a strain of bees that will be peaceable, hardy, good honey-gatherers, and good comb-builders. Well-directed efforts at improving his stock, carefully watching and recording the traits of each colony, getting rid of poor queens and keeping the best, perhaps buying queens occasionally and comparing their progeny with the stock already on hand, always breeding from the best—such a course as this will prove the most profitable of any which a bee-keeper can pursue. The wonder is that it is so greatly neglected."

On page 4 of Gleanings in Bee-Culture for Jan. 1, 1911, Dr. Miller says in a "Stray Straw:"

> "Whenever improvement in bees is suggested, such as breeding for non-swarming, the cry comes, 'Oh! you can't control the drones.' Isn't that objection a little overworked? True, drones can not be directly controlled. Indirectly they can be, and *have been.* I grant you much quicker work could be made with direct control of drones; but do you believe you can persistently select queens with any one object in view and not in time have the drones affected thereby? Look at color. Couldn't control drones; but there are your bees, yellow from tip to tip. I can't directly control drones, but I have bred from biggest yielders, and have thereby bigger crops. Do you think my drones are not improved? They'll revert. Let 'em revert Keep breeding against reversion. A perfect non-swarming bee may never be; but a practical non-swarmer just as well as a non-swarming hen. So long as my record yields come from colonies that make no attempt at swarming, I'm going to keep up the chase."

WHAT CONSTITUTES IMPROVEMENT.

Some of the traits which it is desirable to perpetuate are: Good honey-gatherers, not given to swarming, hardiness, gentleness, and good comb-building.

VARIATION.

In order to accomplish any change in the characteristics of a species we must have a certain amount of variation to start with. If all specimens of a species were absolutely alike there would be no chance for selective breeding. Fortunately for us, there is a variation in all animal species. Pages of testimonies could be produced from our largest and most experienced bee-keepers to prove that bees are no exception to this rule. But one who would claim to the contrary would only be advertising his own lack of observation or experience.

So now we can take advantage of this law of variation and breed from those colonies that vary in the direction we desire. If this is done long enough these traits will become "set" so that they will be reproduced, for

LIKE PRODUCES LIKE.

There is also a tendency in nature for animals to lose an appendage or trait that has, by changed environment, become useless; *e. g.*, horns on cattle, and the wildness of all animals bred and handled for a long time by man.

The claim has been made with a great show of wisdom that the bee is "wild" by nature. What if it is? Were not all animals "wild" until man kept them in subjection, and by handling and selection in breeding overcame that trait? Some domestic animals are more or less "wild" yet, and there is considerable variation in this regard among our domestic animals. Notice the most handled by man are the least wild, viz.: the horse and dog.

The question naturally arises here, Are all bees equally wild? Here, again those of experience know that there are strains of bees that may truly be called tame, or domesticated, as compared with others. What reason is there to expect anything but "wildness" in the majority of bees at the present day? How long has intelligent selective breeding and really scientific care been applied to bees? We may say that it is to be expected that the great majority of bees are "wild by nature," since they have run wild for hundreds, perhaps thousands, of years.

What difference whether a colony lived in a hollow tree or a box in the back-yard, so long as conditions of shelter and size of brood-chamber determined its survival? Or what difference could be expected even from the frame hive of best design if no control of breeding was had, but this all left to circumstances, of size of brood-chamber and location of same as to shelter? Under the old way, for hundreds of years, those bees that swarmed were considered the best, and that old notion is still floating around the back lanes in the bee-world, and some still cling to the old, highly original idea that when the bees swarm they are "doing fine." This kind of bee-keeping never has affected, and never can affect, the bee's disposition, or give us other than a bee that will swarm, sting, and give us honey "sometimes."

THE NON-SITTING HEN.

When man learned to hatch eggs by artificial methods, he was able to improve his chickens; developed strains that were "non-sitting," and layed more eggs. Before that he had to have them "sit" in order to get more chickens. And so it was before we knew how to rear queens equal to natural swarming—we had to have them swarm to get more bees. But now, since as good queens can be reared by artificial methods—yes, better, because as good queens that will produce better bees can be reared—it is time to eliminate the swarming trait.

Here let me quote a little more from Mr. Alexander, from "Practical Writings on Bee-Culture," page 67:

> "The most common and the worst mistake that can be made in rearing queens is saving the natural cells and virgin queens from colonies that have cast natural swarms. I have heard this method recommended by men who were considered quite good authority, and it seemed as if I could not keep still and listen to them. We spend valuable time at our conventions in discussing various ways for preventing natural swarming, and we frequently see long articles in our journals, from noted writers, recommending certain methods to prevent it. Almost daily during the summer season we see bad results in our apiaries from excessive swarming, and then so many will do this thing of all things that will perpetuate the desire to swarm, by saving cells and virgins from the colonies that are the first to swarm; and invariably when this objectionable method has been practiced a few years, a strain of bees will be developed that is ready to swarm in season and out of season. Nor is this all, for a great step backward has been taken, and the bees from the first will begin to degenerate, and part of their yellow color will be lost; and the bees themselves being cross and more irritable, they will fail to gather as much surplus, and they become more nervous in winter. In a few years the apiary will have degenerated until it is of little value. It must then be built up again with good stock."

As "Eternal vigilance is the price of liberty," so "keeping everlastingly at it" is the price of success. To go up, you have to exert yourself and climb; to go down, all you've got to do is to hold still and slide. So with breeding bees or other animals. What you gain you must ever be on the alert to keep, and be up and hustling to add to it. Bee-keeping has emerged from that state of lying in the shade watching one yard for swarms, to the condition of several yards, and rustling from one to another with preventive measures. Who shall say the next step may not be the perfecting of a strain of bees so little given to swarming that several additional apiaries may be added with only 2 or 3 visits during the season to put on supers, harvest the crop, etc.?

In another article I hope to tell something of rearing a few queens for our own use, and the methods of requeening undesirable colonies without interfering with the honey crop.

Dunlap, Iowa.

Honey-Dew—An Excretion or Secretion?

BY R. C. AIKIN.

This subject will not down. I note what is said about it in the October issue of the American Bee Journal. It is not my purpose to enter into an argument or attempt to prove that one or the other theory is true, but rather to tell what I know on the subject.

First, let me say that I have never seen extensive times of honey-dew, nor have I been fortunate enough to come in contact with any bee-keeper who has. The greatest amount of this product I have ever seen, or that has ever come anywhere near me and among my bee-keeping acquaintances, was during the past two years when I had considerable, and so did many or nearly all throughout northern Colorado. I say this has been the most extensive experience, but almost every year for the past 20, there has been more or less of the product.

There is a green louse on the box-elders in more or less numbers every year, coming before the regular honey-flow, and *always* when the lice are present there is the honey-dew, and the quantity is in proportion to the quantity of lice. If the weather be damp while these lice are present, the moisture from the air will unite with the excretions and make it seem more abundant; if very dry it dries up quickly and seems less abundant. Besides the box-elders, the cottonwoods have nearly every year been "lousy," often about the seed-pods; on these there have have been lice, and their excretions often almost sustain the colonies, supplying their daily consumption. Colorado air is very dry, and in mid-day, and after part of the day, but little work is done on the trees, unless it be a cloudy day with the air full of moisture.

How do I know that the sweet gathered was the excrement of the lice? Simple enough. I have many times watched them do the trick. When these trees are showing the dew on the leaves and on the sidewalks or fences, or whatsoever happens to be underneath them, and when the bees are gathering it from the upper surfaces of the leaves, I always find the lice above. Go to such a tree—preferably box-elders, for they are so low they are very easily inspected, and usually without a ladder—in the morning before the sun gets very high. Get the tree between you and the sun; shade your eyes so the sun does not shine directly in them, yet so that you are looking toward it, and you will see the spray falling almost like particles of a fog when it becomes so nearly rain that it begins to precipitate. When you have seen this, walk up to the tree and look on the twigs, and especially on the green, fresh growth, and on the underside of the leaves, and there you find the green lice in great numbers, and on the backs of many of them you will see the liquid that is being excreted. I have many times seen it, and watched it leave the body of the louse. I have watched ants go and partake of this right from the insect. I have seen some of this dew for many years past, and seen the bees gathering many, many times; have seen it in the hives, and tasted it there, but I have never once seen the dew except when the lice were present.

This does not prove, by any means, that there is never any exudation from leaves that bees take up, but the above being my experience makes me think that such cases are the exception. Whether this louse product is simply an excrement, or whether it is a secretion of the insect, as milk, saliva, etc., I do not know.

Loveland, Colo.

"Yours for a Better Race of Bees"

BY G. M. DOOLITTLE.

Not long ago I received a letter which closed with the words which I have placed as a heading to this article. Those words have been running in my mind quite a little of the time since I received the letter, and I have been asking myself whether the bee-keepers of the world were trying to improve their stock with an energy equal to that used by our poultry-men, dairymen, and other beeeders of our domestic animals. Even the lovers of dogs have put their brains to work till we have almost an unnumbered description of these animals, from those the ladies like to hold in their laps to the gaunt greyhound, that can almost equal a locomotive for speed. And while this is so, the lover of our industrious *honey-bees* has done very little to give us aught else save one giving an average but little above those which our fathers hived in their "log gums."

A few years ago a man told me that there was very little use in trying to improve bees, that he had tried for 10 years to improve his, but could not see that they were any better now than when he commenced. I asked him if he had worked as hard to improve his bees as he had done with his cows, for he had the name of having the best herd of cattle there was in his town. He told me that years ago he found that some of his cows were not nearly so good milkers as were others, so he set to work to have all as good as the best, and he told me that he had succeeded; but he did not have the time to put on the bees that he did with the cows.

I asked him if he saw any difference in the gathering qualities of his bees, and he admitted that the difference was as marked with them as it was with his cows when he first went into the dairying business. And such is the case with very many of our bee-keepers, especially with those who have taken no really advanced ground in trying to improve their stock.

Probably there are few apiaries in the United States, containing 10 or more colonies, but that the owner thereof would be compelled to acknowledge that certain colonies do better than others nearly every year in producing honey; unless said owner has taken pains to bring his stock up to a high point of perfection along this honey-gathering line. How often have I heard the expression at bee-conventions, and in visiting different bee-keepers, "Such a colony gave me a big yield, and if the whole apiary could have done as well, I should have had twice the honey to send to market."

Again, I have come across certain bee-keepers who claim that the hive has very much to do with successful apiculture. There is no question but what a good hive is needed by all who are engaged in our pursuit, but a *hive* can not gather nectar any more than can the apiarist. It is the *bees* that produce that which the apiarist is seeking after.

Then, others claim that the strength of the colony has all to do with this matter; but I am inclined to think that the race of bees has the greater influence over these things. I am sure that certain traits of character exist in certain colonies of bees that do not in others. And if this is so, there is a chance of improvement in our bees, and I have argued for years that it would be to our credit in the future to work more for the improvement of our bees, even though we slack not our pace in working for the maximum numbers in our colonies just at the time of the nectar-flow; and the providing of hives the best suited to the wants of the colony and the keeper of the bees.

I am well aware that the man who had success in breeding his cows up to the standard of perfection, had an advantage with them which he did not have with the bees, in that he had absolute control of the father as well as the mother; for as yet I know of only one way for the rank and file of bee-keepers to accomplish what they desire along this line of improvement, and that is through the queen. If we could control the drone as we can the male in our other animals, this improvement matter would be much easier, but as we can not control the drones to any great extent, we have only the queen to aid us materially in the improvement we are desirous of making. But, even if we are thus handicapped, I am sure quite a gain can be made if we will only set ourselves at the task as we do in most other pursuits in life.

Over a quarter of a century ago I began to turn my attention to this matter, as I found that I had some colonies that would more than double the amount of honey each year that others would gather. At the close of one of the best honey seasons I found that some of my colonies had given me nearly 300 pounds of section honey, while others had given less than 50 pounds. On thinking the matter over while lying awake one night, I resolved to bring those less-than-50-pound colonies up to the average of the apiary, at least; so, the next day I struck an average of the number of pounds of surplus honey produced in the whole apiary, and then all colonies which did not come up to this average were marked. These marked colonies, where it could be done at a profit, were united (after killing their queens, either in the fall or spring) with others which had produced an average amount, or above. Where all were not disposed of in this way, I superseded the inferior queens with those reared from the colonies which had given the highest amount. This required the keeping of a record of each colony, but the keeping of such a record was of much value in several ways besides the desire for the improvement of stock.

One thing is very certain, and that is, that no great gain can be made along any line of improvement unless a record is kept which gives some data to work from, and the breeders of all improved stock learned this long, long ago. And this record-keeping is not so great a job, after all. I have a piece of section for each hive, and on this is jotted down the number of pounds of honey taken each time (as well as other matters) from the colony occupying the same, and at the end of the season an adding of the amounts gives the yield from that colony. Then when the season is through, and the long winter evenings come on, these pieces of sections, each bearing the number of the hive they account for are gotten together, and the matter which is on them in a condensed form is transferred to a book. And as this book is kept, and what each colony does the next year added to it the next winter, we soon have something telling what colony No. 1, No. 2, No. 3, and so on, has done for a term of years, so that the best strain can be bred from queens which show the best traits through their offspring.

If each apiarist in the United States would follow a course similar to this our country would soon lead the world in giving something of great value along the line of honey-production.

Borodino, N. Y.

Moving Bees—Comb-Box

BY GRANT ANDERSON.

Moving bees in the heat of summer is looked upon as a dangerous and difficult job, but not so if you only know how to go about it. I have long since quit moving bees in the night, and when I have bees to move I move them any day that suits my convenience, no matter how hot.

I make a shallow tray out of light lumber, with a rim an inch high all around, and large enough for the hives to set down in and fit close enough to prevent the bees from crawling out. In the bottom of the tray I leave an open space of 6 inches or more the entire length of the tray, and cover it with wire-screen.

A cleat ⅞x2 inches is nailed on each end flat on the under side of the tray; this keeps the tray up off the floor of the wagon, and admits a free circulation of air from below. In moving the bees have one such tray for each hive, or as many as you want to move at one time.

Set the trays down beside the hives and lift the hives over into the trays, and see that they sit down well inside the rims; then drive one nail in each end through the rims of the tray to keep the tray from dropping off the hive in handling.

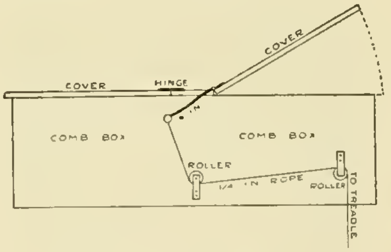
I take the covers off and put a wire-screen on top, with thin strips of wood over the edges of the hives, and nail down with ¾-inch nails.

If the roads are very rough I use springs on the wagon. I moved 30 colonies 20 miles over rough roads the last days in August, and hived 2 large prime swarms the next day after we set them out at home, and 2 days later I extracted 5 gallons of honey from the heaviest of them.

Comb-Box for Extracting-Frames.

Now, while I think of it, I will send a rough sketch of my comb-box which I have found very handy in taking honey from the hives to the extracting-house. The box is 33 inches long and 20 inches wide; has a division-board in the middle, crosswise, and a 2-inch strip nailed over the division securely to the box. To this strip the 2 cover-boards are hinged.

At the back part of the covers are 2 iron levers 9 inches long, and secured to the top of the covers with screws, and so bent that when the cover is raised in front the lever will pass down by the side of the box, as shown in the sketch. To the end of the levers are attached small ropes which are passed under a 2-inch roller near the bottom of the box, and carried forward and over another roller and down to a treadle which drags on the ground. To lift the lid or cover press on the treadle with the foot, and the cover lifts in front, and you set in the comb, using both hands to handle the frames, if you wish.



The Anderson Comb-Box.

As soon as the foot is removed from the treadle, the cover falls down and closes the box, thus giving the robber-bees no chance to get into the box.

The box is carried crosswise on the wheelbarrow, and each end of the box will hold a full super of combs, so I take 2 supers full at each load.

The levers and ropes to the covers are on opposite sides of the box, so as not to be one in the way of the other. The sides of the box are rabbeted like the ends of the hives, and the frames hang crosswise in it. The bottom of the box is lined with tin so as to hold all the drip from the frames. It is 12 inches deep, and the tin comes up 2 inches on the sides and ends.

This box works well on the Daisy, or any other good wheelbarrow.

San Benito, Tex.

Value of Old Brood-Combs

BY C. P. DADANT.

Some very interesting remarks are made concerning old combs by Dr. C. C. Miller, in Gleanings for Feb. 1st. He says:

> "A very old brood-comb weighed 36½ ounces; a new one that had not been bred in weighed 11 ounces. That means that there might be a difference of about 16 pounds in the weight of two 10-frame hives, each containing the same amount of bees and stores. Some colonies have probably starved because heavy old combs fooled the bee-keeper into thinking they had stores enough."

On this subject, Mr. Langstroth said, as early as 1859 ("Hive and Honey-Bee," 3d edition, page 275):

> "In movable-comb hives the amount of stores may be easily ascertained by actual inspection. The weight of hives is not always a safe criterion, as old combs are heavier than new ones, besides being often overstored with bee-bread."

No one, however, to my knowledge has ever before taken the pains to weigh 2 combs to ascertain the possible difference between old combs and new ones. Each one of us old bee-keepers has probably been deceived at times by this difference. It is worth while to draw the attention of the practical apiarist to this short item. Dr. Miller's statements are always worthy of note, but information like this should be underlined. We too often depend upon superficial examination, and suffer accordingly. Not only are old combs heavier than new ones, but old combs are also oftener filled with pollen, sometimes hidden under a slight amount of sealed honey. The conclusion to be drawn is that hives containing very old combs should be considerably heavier than new ones, if we wish to be sure of a safe amount of winter stores.

On the other hand, and a little farther, Dr. Miller shows us that old combs are valuable. He says:

> "It will be 50 years next summer since I began keeping bees, and I never yet melted a comb because old. Do you suppose my cells are too small? How shall I tell?"

To this the editor replies, stating that it is a good practice to melt up old combs since brood-diseases have become so prevalent in the United States.

I wish in this connection to make a statement. My experience has been exactly similar to that of Dr. Miller. For 40 years or more, or beginning in 1864, we made a practice to save all worker-combs, whether old or new, if they were straight. On the other hand, we melted all the drone-combs as fast as we could remove them, replacing them with worker-combs immediately. I have seen old worker-combs which I deemed advisable to melt up, but it was because they were more or less distorted, uneven, or pierced with holes.

In the present days of comb foundation, when we know that we can replace our old combs at small cost since we can melt them up and have the wax worked again into the proper foundation, we will certainly hesitate less. But I can not help remembering the old days when I was less than 20, and my father sent me to the bee-keepers of the vicinity to buy up old combs of colonies that had died during the winter. In most instances they were given to me, so little did the old-time bee-keepers know about the value of them. Besides, they would say: "The moth will destroy them before swarming-time, and it is a blunder to try to save them." And they shrugged their shoulders at our ignorance. But the elder Dadant would smile. He always had artificial increase from the previous season that were not fully provided. He would remove a comb of brood and honey from one of his strongest colonies, give this to one of the new hives, and in its place insert a frame filled with purchased combs adjusted with wires by the old transferring method. True, in these times of foul-brood rampant over the land, such a course would be. a mistake. But at that date little was seen of foul brood, and I may here state that I did not see a case of foul brood anywhere until 1903, when I took a trip to the West.

I do not believe that there is any danger in your old combs if you have never had the disease in your apiary. Of course, it would be an error to advise any one to buy old combs from the outside. But let it not be feared to court foul brood because the combs are old. The only case in which I would melt up old worker-combs that were neither crooked nor defective would be, if they were so dirty and thick that the queen failed to lay eggs in them during a good breeding season. This ought to condemn them. If, however, your bees have had foul brood, it is best to preserve them unless you are positive that they are immune.

However, the real danger of foul brood lies more in the honey than in anything else, and we must by all means avoid feeding honey the source of which is not positively known to us. Under ordinary circumstances, when we must feed, it is best to give sugar syrup to the bees.

That worker-combs, if fit for breeding, have great value does not admit of a doubt. They cost honey, labor, and time. But some people would have us believe that the cost of comb is *nil*, because the wax is produced involuntarily, unknown to the bee, and must be thrown away if not used as soon as produced. They should add to this that there is no production to speak of if the bees are not compelled to remain with their honey-sacs filled with honey for a certain length of time—24 hours or more.

In all my experience I have never seen a positive waste of wax-pellets in any quantity, except in one instance. The combs of a hive had broken down during the height of a honey-flow. The bees had gathered all they could of the running honey, and had clustered on the outside, owing to the deplorable condition of the inside. It was in an out-apiary, and when I came, two days later, parcels of wax in large quantities were lying about, and small knots of it had been plastered in different spots by the confused bees. In normal conditions, if the bees can unload their honey-sacs upon their return to the hive, very little wax-production results—not more than enough to lengthen the combs as needed, and to seal them. There is, to my mind, a perfect adaptability to conditions, and Nature has devised an arrangement which is better than we could imagine.

Concerning the value of combs or foundation to the bees, I can not refrain from citing a practical European apiarist—Ph. Baldensperger—who, in the January number of L'Apiculteur, of Paris, says, page 6:

> "It does not seem possible that a thinking being be still able to doubt that a swarm hived upon 26 frames supplied with wax be not farther along than a swarm hived upon 26 empty frames; that the swarm provided with work already done should be beaten, or even caught up with, by the other with nothing but empty space before it."

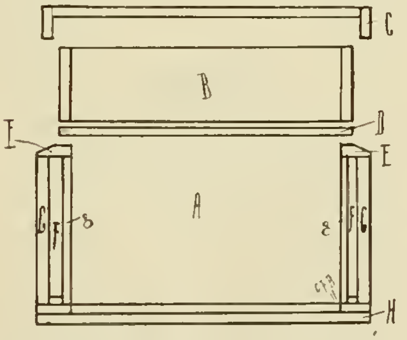
Dr. Miller's opinions on old combs are significant. Even though our younger men may not hesitate to destroy old combs to replace them with new, owing to the comparatlvely small cost nowadays, old and experienced apiarists are certainly excusable for continuing a practice which has been one of the causes of their early successes.

Hamilton, Ill.

Wintering Bees in Protected Hives.

BY DR. A. F. BONNEY.

This article is not for experienced bee-keepers, unless they find something in it to interest them, but for those who keep a few colonies of bees—those who would like to keep some—and that larger army who once engaged in apiculture but abandoned it on account of the terrible winter losses. This is where the average professional bee-keeper will smile in pitying derision. The fact remains that of farmers alone there are thousands who would now be supplying themselves with honey were it not for the fact they were sold single-walled hives when they should have been furnished those of the protected pattern.



SECTIONAL DRAWING OF A PROTECTED HIVE

A—Brood-chamber.
B—Super to be filled with chaff.
C—Metal-roofed shallow cover.
D—Super cover, or bee-escape board with hole closed.
EE—Water-table.
FF—Chaff space between walls GgGg.
GgGg—Inner and outer walls.
H—Bottom-board.

This represents no particular hive, but those having ⅝-inch outer walls *must* be made moisture proof with paint, white lead in the joint and rosin inside.

Let me digress long enough to say that I incline to the opinion that the more people there are who keep bees, the more honey there will be sold, for there are many now who look on it as an expensive luxury, and they have to learn its food value. An annual output of $25,000,000, while a large sum, is but about 25 cents per capita consumption of honey. However, while this matter is not pertinent to this article, I think increased production will result in increased demand, for surely there is room to increase.

I have spent 5 years posting up on protected hives, and for the benefit of those who, like myself, can not have a cellar—perhaps would not if they could—and must economize time and strength, I shall give the result of my investigations, though I had not thought to write when I took up the study, my only idea being to find a hive which while comparatively inexpensive and light would keep my bees safely over winter.

I was discouraged on all sides. I was told that chaff hives are heavy and bunglesome; the bottoms are fast to the body, the covers leak, they are out of date and very expensive. I believed, for the men who told me had nothing to gain by my actions, but as my experience increased, as did my knowledge, I found that these men were living in the past. They had never seen a modern chaff or protected hive, and, I guess, there are those who will doubt the statement that the protected hive as now made will weigh but a little more than the dovetailed hive using the same size frame, and no heavier than some I have seen made of yellow pine, sold to the farmers by country stores. Had they ever handled any other kind they would not have bought them, for they weigh like lead.

The principal objection the editor of one of the bee-papers had to the chaff hive was that he should not like to use it in the summer on account of its weight, and in a recent answer in this Journal, Dr. Miller states that the chaff hive is heavy and expensive. Now both these men, as well informed as they are, evidently have not kept up with the improvements in protected hives, for they have been improved. Years ago they were massive affairs, with walls 4 inches apart, and that would call for a water-table fully 6 inches wide. I can not learn what the covers were, but it is immaterial so long as the body was practically immovable. I have secured samples of all but one of the protected hives made in this country, and find that the heaviest of these weighs 17 pounds filled with frames, as against 12 for a dovetail hive—a difference of only 5 pounds. The cost, which, to the average farmer is more material than weight, is $2.20 each in lots of 10, and that is for body, frames, bottom, super-cover, chaff-tray and winter-cover.

The next hive in weight weighed 2½

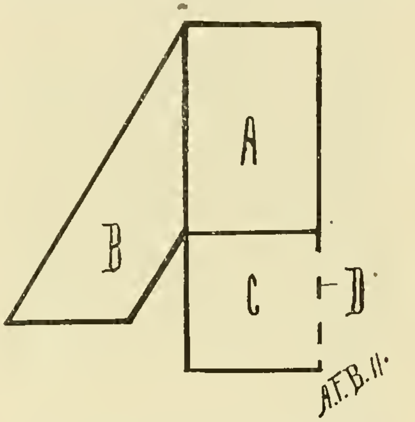
pounds less, while the lightest, made to do entirely without packing, will not weigh more than 10 pounds—actually a little less than a dovetailed hive taking the same size frame. However, the walls are but ⅜ inch, with a ¾-inch space between them, and no packing. The prices on this hive are about the same as on the second one mentioned, being $2.40 with winter cover, while the other is about $2.50. These 3 hives are all I have been able to find, as the most of manufacturers have quit making them, owing to limited demand.

Two of the hives I mention have covers which telescope over the body, while the other has a cover which sits down on the water-table. They all have chaff-trays with burlap bottoms, though one manufacturer advises me that a super can be used if filled with chaff. One manufacturer winters hundreds of colonies—used for queen-rearing—and is a partial convert to the sealed covers. However, for fear the bees will not seal down the covers *tight*, he clings to the chaff-tray to take up any moisture which may escape. One of the others is irrevocably an absorbent-cushion man.

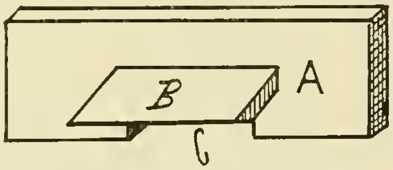
As a result of 5 years' study, during which time I made a great many hives of the chaff pattern, varying in protected space from ½ inch to 2 inches, I found that *in this climate* bees will winter with but little protection more than they get in a dovetail hive, *providing always that the colonies are good and strong, and they have an abundance of sealed stores*, and honey is in every way better than syrup. I can not see the advantage of saving honey in the fall only to see the bees dwindle in the spring or else feed. If I find in the fall that I have weak colonies I double them up, even taking 3 and 4 colonies to make one, for I use a great many decoy hives, and have late swarms which are very small.

Having decided on the amount of protection my bees needed, I found that with a body of the protected pattern, with an inch of space packed with chaff, a super-cover sealed *tight*, a super on that filled with chaff, and over all a cover held so that it would not blow off, afforded a home for the bees which was close to Nature. The bees were dry—there was not an undue amount of stores used; the winter loss was slight, and there was *no* spring dwindling. I wintered bees in this way during the winter of 1909-10, which was followed by a summer-like March and three freezes in April, just when the hives were filled with brood. I had a few dovetailed hives with bees in, and June 1st there were not as many bees as in April, but in the chaff hives there was practically no loss, though the queen did quit laying, as the fruit-bloom ceased abruptly. That season I secured 60 pounds to the hive—comb and extracted honey—while my neighbors, who cellar their bees, or else winter them in dovetailed hives, reported a practical failure. I will add that I had a very short clover flow in the spring of 1910, as had many others.

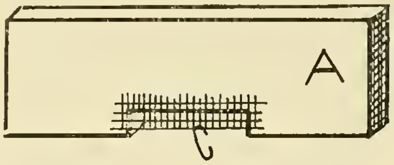
I will not join in the discussion about sealed covers and absorbent cushions, for I am writing for a class that does not care a straw about it, so that they can safely winter their bees. Moreover, my experience has been that with a large entrance the hive will keep dry. By "large entrance" I mean something between an opening ¾ inch wide by 2 long, and the same width by 14½ inches long. With the arrangement I mentioned above, I have used an entrance 2x14½ inches, and in one case there was an accidental crack under the cover which the bees failed to seal, yet this was one of my very best colonies the succeeding season. I *think* I shall settle on an entrance ¾x4 inches, protected by wire-screen through which the queen can pass, and a sleet shield over that; but as this will not equal an entrance of ¼x12 inches, I am more likely to enlarge than reduce this. I want something which will invariably keep the hive well ventilated, and thus dry.



End View of Entrance-Guard.



Front View of Entrance-Guard.



Rear View of Entrance-Guard.

A—Entrance-guard (block).
B—Storm or sleet shield.
C—Entrance.
D—Wire-screen on inside of A and covering C.

I find that all the chaff hives have one weak point, and that is, the point where the water-table rests on the top of the outer wall. In the case of the ⅜-inch outer walls this is vital, for water will seep in, by capillary attraction, while with the ¾-inch wall larger nails can be used and a coat of white lead in the joint should seal it permanently. To make sure, however, I shall pack the inter-wall space with chaff. I put on the water-table, then turning the shell over pour in some rosin which has been tempered with a little oil to keep it from being so brittle. A few minutes' work and a cent's worth of rosin will make a joint eternally impervious to moisture.

I do not think there is any use for me to dwell on the covering of these hives as put out by the manufacturers, for I shall never use them. I do not believe absorbent cushions scientific *for this location;* I think a super filled with chaff all the protection needed over a super-cover *sealed hermetically*, as it can be by pouring a thin stream of artificial propolis around the inner edge of the water-table, and then pressing the super-cover down tightly on to it. This seals fruit for the housewife, and surely it will protect the bees. As I make it now, take a pound of rosin, pulverize it, add 2 ounces of turpentine, let it stand in a warm room until the whole mass is homogeneous, then add 2 ounces of some cheap oil—raw linseed will do; then heat it so that it will pour freely through a 3-16-inch spout.

It matters not that I do not believe in the cellar-wintering of bees, but it does that many beginners may be led to try it, not knowing that it is an art and science all by itself. The cellar must be just so, or there will not be a colony left in the spring; and I do not believe any old bee-man will find fault when I state that there is not a farm cellar in the country suitable for wintering bees. Maybe some of them can be made so, at great expense, and on account of this the beginner, the amateur, the small bee-keeper, must have some way of keeping his bees safely, and that way is the chaff hive, or some other form of the protected hive, and in the modern article the difference in cost has about been eliminated, and the weight of the lightest of the 3 bodies I mention is but 3 or 4 pounds more than an average dovetail hive. You must have supers, and covers, and super-covers, and bottoms, so all the protected hive need cost you is, as I figured before, the difference between the bodies, and that is now but a trifle, and I am firmly convinced that if manufacturers would do as they should—advise the beginner urgently to take nothing but the chaff hive body, and dovetail bodies for supers, rendering their yards flexible as between the chaff hives for winter and the dovetail for summer, if they wish—more men would keep bees, and keep on keeping them instead of commencing and quitting, for no other reason than winter loss in the single-walled hives.

I have something more than my own experience to justify my opinion about wintering bees. Among other things, Mr. Chase, of New York State, annually winters 200 to 300 colonies in single-walled hives, asking only that they be *large and have abundant stores*, and others I have written to, do nearly as well. But here comes in the question of location again. Mr. Chase has abundant snow—I have none to mention; he is close to large lakes, and there is probably more humidity there than here. We are both on the 42d parallel. He probably has a late flow of buckwheat—I have not; he probably uses the Langstroth hive—I was so unfortunate as to get started with the Danzenbaker, and yet, mind you, with 7-inch frames I wintered bees successfully with entrances 2x14½ inches, and got big yields the succeeding season.

To summarize: The man or woman

who wants to keep a few colonies of bees should choose the standard Langstroth hive, *10-frame:* put them into a protected hive, and a Root, Woodman or Falconer will serve. I do not mention the "Champion," for so far as I know it is identical with the "Protection" put out by the Woodman Company. If, however, they wish to reduce the cost to a minimum, buy the protected body, make the joint where the water-table and outer wall join water-tight by pouring in melted rosin, and, besides, laying the joint in thick white lead. The Root hive is a chaff hive, while the others are "air-spaced," though they can be packed if you wish. Put on over the brood-chamber a super wherein the ends are bound with channel irons, and seal it down as I have described, *not waiting for the bees to do it.*

You must have supers, so hang your frames up somewhere, put the super on the cover, fill it with dry chaff, or, as I lately discovered, shredded corn-stalks, and over all a flat, metal-roofed cover of the Colorado pattern. This will not blow off. Protect the hive-entrance with wire-screen having a mesh large enough to let the queen and drones pass but keep out mice, and either lean a board against the hive or else put a sleet cover on as in Fig. I. Double up all weak colonies, leave the hive full of honey, for you can extract in the spring, or else use the combs of honey to start other colonies. The honey will surely not be wasted, and without abundant stores either your bees will perish or you will have the trouble of feeding. Later on, if you want a cellar it will be time to build it, though it does not seem economical to pay out a hundred dollars to winter the bees the average amateur will keep.

Since writing the above, Mr. Townsend's article has been printed, and I take pleasure in quoting him, as he has had experience, and what he lacked in acquiring knowledge he got by asking others. In Gleanings for Jan. 15 he says:

> " * * * * I have come to the following conclusions As a general rule, bees in the Northern States and in Canada winter better in a cellar or in a special repository under ground where the temperature can be kept near the 45 degree mark all the time. In the States a little further south, where the bees can have a flight every 6 weeks or 2 months during the winter, chaff hives or special packing boxes * * * are better adapted to the conditions. Still further south, where bees fly every month in the year, no packing is required. * * * In a changeable temperature a chaff hive is in its glory, for where the bees can have a day for a cleansing flight every 6 weeks or 2 months, they will winter perfectly."

This agrees perfectly with what I had learned from the older bee-men in the country, but I did not like to assert too strongly, just at present, that bee-keeping is a matter of *location.* I have been in Iowa some 32 years, and do not remember a winter which was not "changeable." I do not believe there has been a winter in all these years in which bees could not fly every 6 weeks or oftener, and I will now add for the benefit of beginners, you understand, that in this and similar locations, bees will do better in a chaff hive than in any cellar ever made, unless it is fitted with electric thermostats, and even then what is to be done when it is so warm for a week in January as it is as I write, that the frost is out of the ground and bees are haunting the kitchen-door half a mile from the hive?

Buck Grove, Iowa.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Over $2,000 from 100 Colonies

It is reported that E. W. Alexander made over $2,000 from 100 colonies of bees, in one season, as I understand. If I follow the instructions in his book do you think I can do as well annually?

SUBSCRIBER.

ANSWER.—Not by a long ways. I have done as well or better than that; but I can't begin to do it every year. And it I had followed Mr. Alexander's teachings I don't think I would have done as well. Every one must know how to do the best for his locality and conditions. Mr. Alexander was an exceptional bee-keeper, but he had also an exceptional locality, such as not one bee-keeper in a thousand has, and what succeeded with him might fail with me. But it will be a good thing for you to become familiar with what he did, and then use your judgment as to your own course.

Banat Bees in the North

1. Would Banat bees be hardy enough for Minnesota climate?

2. Where could I buy some in Minnesota, or some other Northern State?

3. Are Banat bees hardier than Italian and black bees?

MINNESOTA.

ANSWERS.—1. I know very little about Banat bees, but I suppose they are equally as hardy as Italians, and perhaps as good workers.

2. I don't know, but you will probably see them advertised soon if they are to be had.

3. As already said, I know very little about them, but I think it is not claimed that they are hardier than Italians or blacks.

Yellow Sweet Clover—Alyssum

1. Will the yellow sweet clover bloom the first year after sown?

2. What time of the year does it commence to bloom?

3. What is alyssum Bartonia?

SUBSCRIBER.

ANSWERS.—1. The general rule is that sweet clover grows one year, blooms the second year, and then dies root and branch. But yellow sweet clover, at least some kinds, is claimed to bloom the first year.

2. On my place the very first blossom is seen on yellow sweet clover about the first of June, and it is in full bloom a week or so later. It is 2 to 4 weeks earlier than the white kind.

3. I don't know about the Bartonia part; but alyssum is a popular low-growing plant, a profuse bloomer with small white blossoms, which is much used for borders.

Keeping Bees on Shares

Suppose A and B made a verbal contract, A to buy bees and B to take care of them for one-half the honey and one-half the increase of the bees, both to pay half the cost of material needed. B took good care of the bees, increased from 9 to 20 colonies. Now B asks A to divide the increase before the work begins again, so B knows which colonies belong to him; but A claims he does not want to divide, as he wants half again from all last year's increase, but B claims A is not entitled to the half of B's increase from last year, as B claims the half belongs to him and not to A. Now can you or any one in beedom give B an answer through the American Bee Journal?

IDAHO.

ANSWER.—It hardly looks as if A should have any income from B's half of the increase.

Full Sheets without Wiring or Splinting—Getting Rid of Old Brood-Combs

1. Can full sheets of foundation be used for brood-frames without using either wire or wood splints? Would it sag so it will spoil the cells for brood-rearing?

2. What is the best way to get rid of old brood-combs, at the same time establishing a new brood-chamber? Would the old brood-chamber placed over a queen-excluder with full sheets of foundation be a good plan? If not, will you outline a plan that you would prefer?

WEST VIRGINIA.

ANSWER.—1. Unless the foundation be extra heavy it will be pretty certain to sag enough to stretch a good many of the cells in the upper part.

2. The plan you propose is as good as any, provided you want the bees to store honey in the combs above the excluder. Otherwise you can take away all the combs but one, and replace them with foundation.

Hive and Frames from Foul-Broody Colony

1. A weak colony died during this winter. When I examined the combs I found cells infected with foul brood. I cut the combs out and boiled them for wax. The frames I boiled also in a wash-boiler. Will they be all right to use again after this treatment, or should I destroy them?

2. The hive is a Root chaff-hive, and I would want to keep it after treating it. What is the best way to do this?

NEW YORK.

ANSWERS.—1. I don't believe there would be very much risk in using them again. Yet I think some would consider it safer to destroy them.

2. There is a difference of opinion about disinfecting hives. McEvoy, and I think most of the foul-brood inspectors say it is not necessary. Those who disinfect them throw straw into the hive and burn it, or sprinkle the inside of the hive with kerosene and burn it, or else scorch the inside of the hive with a painter's torch.

Drones Caught by Birds

Some "yellow hammers" or "high-holer" woodpeckers have been stopping around my bees all winter, and as there were many bugs about, I thought they were after them. But lately I decided that they have gotten away with about all the drones in 70 colonies. What am I to do about it? I procured a gun, and have two birds and am looking for more. But how about the drones? Perhaps they got some of the queens, too. I am a novice at the business, having just commenced last spring with other work enough to have taken all my time. I am working the place on shares, including the bees.

NEW MEXICO.

ANSWER.—If the birds take only the drones, you need not be much disturbed. There will no doubt be plenty of drones left for all necessary purposes. It is hardly likely that queens have been disturbed. I don't know much about what these birds will do, but it has been reported that some kinds will take drones and none of the other bees.

When to Put on Supers

I see on page 181 (1910) an article on when to put supers on hives. Last year I waited for the first sweet clover bloom before putting on supers—June 13; and got left, as my bees commenced swarming May 17, and kept it up. Would it do to put on supers earlier than that, as we have fruit-trees and dandelions to work on for a month before that time?

NEW YORK.

ANSWER.—If you will look again at page 181, you will see that it is white clover, and not sweet clover that is spoken of. But that really makes little difference, for you would have been "left" anyway if bees began swarming May 17. Certainly it might do to put on supers for the fruit and dandelion bloom if you have such a yield at that time as to set the bees to continued swarming. One thing, however, must be considered. The honey from fruit-bloom and dandelion would be likely to be mixed with the later honey from white clover, and to darken the latter. Possibly it might be better to get the extra honey from dandelion honey stored in extracting-frames, or else in brood-frames, to be fed back when needed.

Queen Stings?—Bees Sweating in Cellar

1. Can a queen sting?

2. What makes bees sweat in the cellar in winter? Mine are all wet. I put them into the cellar just as they were in the summer.

3. Some of my bees will swarm 3 or 4 times. I put them in a hive, queen and all, and in an hour they will swarm again, and so on for 2 or 3 times more. What is the cause of that?

IOWA.

ANSWERS.—If you allow two queens to come together, unless one of them is pretty old, you will soon learn that they can sting, for one of them will soon be a dead queen. The strange part of it is that the victor is never injured in these duels. But a queen will never sting you. I have handled thousands of queens and I never knew one of them to make the least show of stinging. Nor will a queen sting a worker. Just once in my lifetime I knew of one exception to this rule, when I saw a queen sting a worker.

2. The moisture from the breath of the bees settles on the cold walls of the hive, just as we say a pitcher sweats when a pitcher of cold water stands in a hot and moist time and the moisture of the air settles on the outside of the pitcher. It is a bad thing to have this moisture settle on the hive-cover, for then the drops fall on the cluster of bees. The matter may be helped by enlarging the entrance, by allowing a little crack at the top for the moisture to escape, or by having some kind of warm packing on top.

3. When a swarm is hived it will desert the hive if the hive is not to its liking, and when the hive is not to its liking nearly always it is because the hive is too hot. At least for the first few days, make the hive as open as possible at the bottom, leave the cover open a half inch or so, and see that the hive is shaded from the hot sun. It will also help to hold the swarm in the hive if a frame of brood is given.

Keeping Virgin and Mated Queens—Queenlessness in March—Substitutes for Early Pollen—Bee-Feed for Fall

1. How long can you keep a virgin queen by feeding her in a queen-cage?

2. How long can you safely keep a mated queen in the same way?

What is the best thing to do if a strong colony becomes queenless about the first of March? Is it safe to send to the South for a queen at that time of the year?

4. Is anything gained in the spring by letting bees have access to rye-chop or oil-meal before they can get natural pollen?

5. Which is the better for fall feeding, bee-candy or sugar syrup?

PENNSYLVANIA.

ANSWERS.—1. and 2. I don't know. A laying queen may be kept caged in a hive or super for 6 weeks or more, but I'm afraid a virgin would not last so well.

3. Doubtful if you would have good success by sending South at that time The best thing is to break up the colony, uniting it with one or more queen-right colonies.

4. Generally not; but there might be in a place where there is no natural pollen to be had after the weather is warm enough for bees to fly. You can tell by trying, for as soon as natural pollen is plenty, bees will desert the substitute.

5. Likely syrup; unless it be too late to evaporate and seal the syrup, in which case the candy would be better.

Pasturage for Bees—Dead Bees Carried Out in Winter—Bees Dying on the Snow

1. I have 50 colonies of bees and there is 100 acres of alsike clover within one mile, and about 200 acres of white clover, which looks well now. Is that pasturage enough for 50 colonies? I am in a locality where there are very few bees.

2. My bees had a flight 4 or 5 days this month, and they carried out young bees. Is that usual for this time of year? They are on the summer stands, and went into winter good and strong.

3. I find dead bees carried out by the bees. Is that common?

4. How soon does the queen begin to lay eggs?

5. Bees had a flight when the ground was covered with snow; they flew out and lit on the snow and perished. Is that common?

KENTUCKY.

ANSWERS.—1. I think they ought to do well.

2. It is not very common, but if the number was not large it need cause no alarm.

3. It does not often occur, and if you find a considerable number carried out by any particular colony, it is to be feared that colony is not queen-right.

4. That depends. In the cellar she does not do much before the bees are brought out, but outdoors she begins earlier, sometimes even in January. I don't know how early she does begin 'way down south.

5. Unfortunately it is rather common. Some shade the entrance at such times.

Brushing and Shaking Bees—Balling the Queen

On page 261 "Forty Years Among the Bees," you say, "Before brushing, however, most of the bees should be shaken off." Now suppose the queen was on the side of the comb at the top near your left hand in that admirable method of yours of striking the back of the hand when holding the comb with the closed fist, thus pounding the bees off the comb. What percentage of queens would be injured by such a fall? Doesn't Mr. Doolittle claim that queens are seriously injured when brood-rearing is going on at full capacity, by such treatment? I am under the impression that I have lost queens by shaking thus.

2. Wouldn't bees be too much demoralized by shaking, to ball and kill queen at that time?

3. Have you found some breeds or strains more addicted to balling than others, or is it fairly common to all?

CANADA.

ANSWERS.—1. I never knew a queen to be injured in that way. Still, that does not say it is impossible. If she should fall from the upper part of the comb and strike upon the bare floor of the hive, while the comb is held clear above the top-bars, there would be some danger of it. But that is not likely to happen. When the comb is held as high as that, the queen would fall no farther than to fall on the top-bars, unless the frames were spread apart, and if the frames are spread apart the comb is lowered between them before being pounded. Answering definitely, I should say that less than one percent would be thus injured.

2. Yes, but they would be likely to get over such demoralization pretty soon, and then kill the queen.

3. I never noticed any difference; and yet it is likely that such difference exists.

I thank you heartily for your kind words.

Queenless Colony in Winter

Yesterday (Feb. 13) the bees were flying nicely, and as I cleaned out some dead bees from some of them I scratched out a dead queen—a nice big one. It looked to me as though it was an old one from last summer. Now this is one of my best colonies and Italian queen. How can I save the colony? It is too early to send for a queen—she would freeze in the mail. What would you advise me to do? Would you unite them with a weak colony? I have a few weak ones in the cellar. I have so far lost 2 colonies out of 61, but lots of time yet for losses.

PENNSYLVANIA.

ANSWER.—There is no great hurry to do anything. Likely the colony would live through till warm weather if left just as it is. But it might be a good plan to unite with a weak colony either now or immediately upon taking from the cellar. It may be well, however, to mention that there is a chance that the colony is not queenless. A young queen may have superseded the old one last fall, and the two queens may have lived together until winter, and now the old one is thrown out dead. If you think there is any likelihood of this, better wait till time for bees to fly, and then see whether brood-rearing is started.

Applying Bee-Stings for Rheumatism

O. P. Redding, who lived in this town two years ago the coming spring, was suffering with rheumatism so badly he could not work. I treated him with bee-stings, doubling the dose each week, beginning with 2 stings the first week, and so on until he had 16 stings the last week he moved away to the eastern part of Illinois. Four weeks ago his brother died here, and Mr. Redding came to the funeral. I had a chance to talk with him, and he told me that soon after he moved he got well, and has not had any symptoms of rheumatism since. Now I have another patient who owns a large dry goods store in Springfield, Ill. He wants the horizontal treatment from the bee. I am hesitating a little, for bee-stings are dangerous to some people, and I might "get my foot in it" if it should work the wrong way. I thought I would better ask your advice in regard to the practice.

Answer.—There is no great likelihood that you will get into serious trouble applying stings for rheumatism, if you begin as moderately as 2 stings in a week.

Hiving Swarms—Feeding in Spring

1. When a swarm is hived on an old stand and the parent colony moved to new location, will any of the queen-cells be destroyed by the bees, or will this be left for first emerging virgin to do?

2. I have a choice colony which I want to stimulate, beginning early in the spring, till it swarms, hiving the swarm on the old stand; then divide the parent colony into 2 or 3 parts, giving to each part one or more of the queen-cells. Can this be done with good results? and will the small colonies build up strong by fall; that is, if the season is favorable?

3. How many days after the swarm issues should I divide?

4. Some of my colonies will need to be fed during April. Is it possible to feed a colony say 10 pounds of syrup on a warm day, by placing a pan (with float) in an empty super over the colony?

5. What thickness should the syrup be made? Virginia.

Answers.—1. The cells will be destroyed after the emergence of the first virgin.

2. The probability is that feeding early in spring to stimulate will not "pan out" as well as you expect. As a rule, if abundant supplies are in the hive, the bees will build up as fast if left entirely alone, and sometimes the attempt to stimulate works just the other way. Even so, in a good season, as many as two swarms might build up into good colonies by fall. Hardly more, and the season must be good at that.

3. About 7 or 8 days.

4. Yes.

5. For that time of year half-and-half will be all right.

Doubling Number of Colonies—Jerking Supers Off

1. Can I double my colonies this spring, without buying any, and have them strong enough to go into supers when white clover comes in bloom, which, in this locality, is from June 1st to 10th?

2. If it can be done, how would you do it?

3. If the above plan is not feasible, give me your best for increasing without cutting in too much on the honey crop.

4. Can you jerk the supers clear off the Marengo bees at one yank, like they do from those Texas bees? I know from hot experience you can't do it with Pennsylvania bees. (I think I hear Mr. Scholl say it's in the "breed" of the manipulator.) When I first commenced keeping bees I tried emptying the supers of bees by shaking, then by "shooking," then smoking, then more shaking, and sweating, and frequently drop the super and "beat it" for a friendly clump of elders hard by. Now when I want to remove the super with the aid of a little smoke I quietly adjust a Porter escape, and rest while the Porter does the rest. How they do save your old back! Pennsylvania.

Answers.—1, 2 and 3. If you will allow me to answer your first 3 questions in a bunch, I would say that increase must be at the cost of crop, but you may accomplish what you probably want in this way: Start queen-cells in your best colony; about 8 days later take from each colony all but one frame of brood with adhering bees, and put it in another hive on another stand, leaving the queen with one frame of brood on the old stand. Fill up both hives with frames of foundation, and a day or two later give a sealed cell to the queenless part. If you start before about the time for swarming, you will have poor queens. If you wait later you run the risk of having swarming. Yet that might not be such a very bad thing. Indeed, you might do worse than to depend upon natural swarming. Then as each colony swarms, put the swarm on the old stand with the mother clonoy close beside it, and a week later move the old colony to a new stand.

4. I never was very successful in shaking bees out of supers, yet I can do something at it by striking the super on the ground on one end, or rather on the lower edge of one end. But I don't often do that.

Mice in Hives—Detecting Foul Brood—Dividing for Increase—Locating an Apiary

1. On Jan. 28, 1911, I bought my partner's share of the bees, and on opening the hive I found a mouse-nest in it. I thought that very strange, having never heard of it before. Have you any mice in your bee-hives? The colony is a strong one, and I thought the bees would keep the mice out. It never destroyed any comb while it was in there.

2. The bees are in an old box-hive. I am going to transfer them in the spring. When would you advise me to do it?

3. Would you advise me to give them full frames of foundation in the brood-chamber?

4. How can you tell when the bees have foul brood?

5. Do you think it good to divide them about July 1st? I am working for an increase?

6. We have 2 lots, on one there is a peach orchard. Would you keep bees on that side, or near the house where you could watch them?

I take the American Bee Journal and think it is a fine paper for bee-keepers. Illinois.

Answers.—1. Yes, indeed, I've had mice in hives, and they have not always been as considerate as yours, for they have sometimes gnawed the combs. You can keep them out by having the entrance closed with wire-cloth having 3 meshes to the inch. That will bar mice, but allow bees to pass.

2. Nowadays a favorite way is to wait till they swarm. Hive the swarm in a modern hive, set it on the old stand, and as you are working for increase set the old hive at once on a new stand. Twenty-one days from the time the colony swarmed—when all the worker-brood will be hatched out—transfer the old colony to a new hive, giving it frames of foundation, unless you prefer to cut out the straight combs from the old hive and fasten them into frames.

3. Yes.

4. By the appearance of the brood. If you find dead brood in the brood-combs it will be well to send a sample to Dr. E. F. Phillips, Agricultural Department, Washington, D. C., and he will tell you, without charge, what the trouble is.

5. Yes, or a little sooner if they have not already swarmed naturally. You can divide any time after honey is yielding well if the colony is strong enough.

6. Other things being equal, I should keep them where they are most readily seen.

Two Laying Queens in a Hive—Requeening Hybrid Bees—Sumac—Prevention of Swarming

1. Will two or more laying queens in one hive prevent swarming, as told by Alexander?

2. If so, how do you get two queens in one hive?

3. The bees won't liberate a queen from a cage as long as there is a good laying queen in the hive.

4. How would this do? Remove the queen, place a follower in the middle of the hive, with frames on either side, and introduce a queen to each side? Of course, the follower would then be removed and all passage over the tops of the frames prohibited until both of queens are released.

5. I have a colony of hybrids. I tried to requeen them but it wouldn't work. As long as there is a larva in the hive they will start queen-cells. Could I wait until brood-rearing ceased and then introduce the queen? Could I throw them on foundation and then introduce her. I know of a case of this kind where, when the queen was introduced with the bees on foundation, she was allowed to deposit eggs until there was larvæ in the hive, when she was promptly killed, and the bees proceeded to rear one for themselves.

6. Does sumac yield honey? I removed some honey this season that had a greenish tinge. The comb fairly melted in the mouth. It is capped white. Could this have been sumac? The bees worked on it steadily for a week.

7. In the November issue some one wrote from New Jersey saying he had a plan for the prevention of swarming. Do you know any more about it, as to whether he gave it to some bee-paper, whether it is a success, and what paper he gave it to, etc.? New Jersey.

Answers.—1. I think the plan did not pan out well afterward.

2. You can get two queens to stay together in one hive, provided one of them is quite old, by the usual way of introducing.

3. They will in this "locality."

4. It might work, but as soon as the queens got together there would likely be a death in the family, unless one of them was quite old.

5. Bees are sometimes exceptionally stubborn, but it is possible that in either of these cases there might be success with liberal feeding.

6. Sumac is a fine honey-plant in some places, but I don't know the appearance of the honey.

7. I have heard nothing further about it.

Dadant & Sons, of Hamilton, Ill., have sent us a copy of their annual catalog for 1911. It contains 52 pages, 6 of which are devoted to instructions to beginners in bee-keeping. The rest of the catalog describes the various bee-supplies they have for sale. Dadant & Sons have been in the bee-supply and comb foundation manufacturing business since 1863. In 2 more years they will have been in business just 50 years, which length of time has been represented by 3 generations of the Dadant family; and there is a 4th coming on. We congratulate Dadant & Sons on their long and honorable career, and hope that they will at least round out the 100th-year mark.

REPORTS AND EXPERIENCES

Long Winter for the Bees.

This has been a long winter for bees that are on the summer stands in this section. They have had no flight since about Oct 20, owing to our winter beginning so early. It was nearly warm enough Feb. 25th, but the wind was so high, and the snow so light on the ground, that such bees as did attempt to fly from the few hives left on the summer stands dropped down in the light snow and were lost. The spots on the hives about the entrance show how badly they are suffering. It is cold now, with mercury down to from 5 to 15 degrees above zero.

G. M. DOOLITTLE.

Borodino, N. Y., March 3.

Bees Gathering Honey

It is warm and nice here now. Almond is in full bloom, and bees are gathering some honey now. I have 150 colonies. I can't do without the Bee Journal.

N. J. DAVIDSON.

Dinuba, Calif., Feb. 14.

The Rainfall and Honey Crop

The following is the average rainfall during the years mentioned:

For 1910, 24.76 inches; 1902, 40.52; 1903, 39.22; 1904, 47.73; 1905, 42.55; 1906, 32.85; 1907, 37.59; 1908, 39.48; 1909, 40.32; 1910, 37.42.

For the years 1903, 1904, 1905, 1908, and 1910 my average surplus per colony was a little over 80 pounds; in 1906, 1907, no surplus; in 1909 an average of 20 pounds. With clover in good condition now, what will 1911 do?

Liberty, Mo., Feb. 14. J. F. DIEMER.

Bee Journal Cheered Him Up

I think there is no bee-paper like the American Bee Journal. I thought for a while I would quit, but the American Bee Journal cheered me up, and I had quite a success which I owe to it.

FRANK R. JOHNSON.

Kansas, Mo., Feb. 8.

Clover Protected with Snow

We have about one foot of snow, and in consequence the clover is well protected. Bees seem to be wintering all right so far. C. A. HATCH.

Richland Center, Wis., Feb. 7.

Good Prospects for 1911

Last season was the greatest for honey in this part of Arkansas for 7 years. I got 1,000 pounds from 20 colonies, all pure Italians, mostly imported queens, and the prospects are good for a big crop this year. A. L. THOMAS.

Lowell, Ark., Feb. 29.

Moving Bees a Short Distance

Much has appeared lately in bee-papers on the subject of moving bees. I moved some colonies last fall and had no trouble about the bees returning to the old location. The distance was only 10 or 12 rods, and I expected many to return, as the days were rather warm. Some were moved in the evening after flying was over, and some in the morning before flying began. The hives were closed so the bees could not get out, and placed on a wheelbarrow without springs. The bees got a good shaking up on the journey. Those moved in the evening had the entrances opened as soon as placed on the new stand. Those moved in the morning were kept confined a short time, and a quart atmospheric can filled with food placed on top of the brood-frames in an empty super. The entrances were kept closed till the bees had gotten well at work on the feed, and then removed and a board leaned against the front of the hive. EDWIN BEVINS.

Leon, Iowa, Feb. 24.

Strengthening Weak Colonies

On page 23, my method for strengthening weak colonies appeared. When I wrote the report I didn't take into consideration the fact that in my locality the bees are busy gathering from fruit-bloom. So I would caution any person not to try this method in an extensive way, when no honey is coming in. ALFRED L. HARTL.

Elmendorf, Tex., Feb. 9.

From Coal-Mining to Bee-Keeping

As I see many interesting reports from bee-keepers from all parts of the country, I will send in mine. I have mined coal for 40 years, and began bee-keeping 10 years ago. I have 30 colonies on the public highway, the entrances all face the road, but no one has been stung. The automobiles and buggies go and come in peace. The bees have been here for 6 years. The road was opened after the bees were placed there. It is pleasant to get out of the mines in June and be among the bees. Black damps will accumulate in the mines when the air courses become clogged with slate; the fans cannot force the air through the workings until an opening is made. It is similar in the bee-hive. The air-courses become clogged up with bees so that the fanning bees cannot force the air through the hive. A strike is then declared, and the bees go out. I give them room to keep the air-courses open, and if they strike it is no fault of mine.

J. D. HARTMAN.

Williamsburg, Kans., Feb. 10.

Bee-Pasturage — Bee-Talks for Farm Bee-Keepers

Our locality is improving in bee-pasture each year. The general use of alfalfa for hay gives us a sure crop of alfalfa honey. The roads are becoming seeded to sweet clover, and alsike, and white clover is much more plentiful; some seasons our heartsease crop is fine. Last year we had good rains for early white clover, followed by excessive drouth, giving us good alfalfa pasture. Then heavy August rains gave us heartsease in abundance. The results were that almost any good colony gave 100 pounds of surplus honey.

I find bee-talks at our Farmers' Institutes something unheard of. Horses, hogs, cattle and poultry are discussed and lectured on—why can't the bee-papers outline a good talk on the main points of farm bee-keeping, that could be used by an enthusiastic bee-man in any community? We have those that could talk and answer questions in the discussion following, which would be of practical use to the farmer bee-keeper. Such subjects as the best hive demonstrated by a good hive, a good hive-stand, how to handle swarms, common mistakes in bee-keeping, when to put on supers to keep down swarming, how to use a smoker, how to protect yourself from stings, etc., could be discussed. I am sure Dr. Miller could outline a talk that almost any of our experienced bee-men could follow with benefit to the bee and honey business. F. B. REEVE.

Brock, Nebr., Feb. 20.

[Perhaps the reading of a good bee-book, in connection with some practical experience, would help to fit one to talk before farm bee-keepers.—EDITOR.]

A Horse in the Apiary

I enclose a picture of my horse and me, and a part of my bee-yard; also an account of taking the picture in the apiary on Christmas Day. My wife proposed to take my picture, and I wished to have it taken in the apiary among the bees, but she said I always had it taken sitting on a hive of bees, and that she wished it without the bees. So I proposed to have it taken with our faithful horse by my side, and she readily consented to that.

I got the horse, but I longed to be among the bees, so we concluded the horse would look nice standing among the bee-hives. The sun was shining bright, and there were a few bees flying, but as the bees are very gentle and do not often sting, we thought we could risk taking the horse in the apiary for a minute or two. But it was not in this case as it was with the Jay, in the description he gave in Gleanings, of himself and the different colored dogs, for in his experience the bees stung the black dog every time. It is supposed that bees are more apt to sting a person dressed in black than in white or gray.

I carefully led the horse among the bees. The horse is "dressed in white," and I in black, but as I was trying to get him in position one stung him on the nose, and he fought and backed around, and I was afraid he would upset the hive of bees, and that would have been a picture of a more lively scene than is usually seen in a bee-yard on Christmas Day. Using all the skill I could, I succeeded in getting him out of the apiary without serious trouble. The white horse received all the stings. The picture shows how a horse looks enraged with bees.

Now this lesson teaches us always to keep horses at a safe distance from the bees when they are flying.

Lytle, Tex., Feb. 17. CAREY W. REES.

Words—Apiarian and Otherwise

On page 53 of the American Bee Journal Dr. Miller replies to a corespondent ("New York"), as follows:

* * * * "who write about 'shook swarms.'

"There is, however, some warrant for 'foul-broody.' It seems to be in accord with good custom to add the termination 'y' to a disease to mean suffering from that disease. 'Colicky,' meaning suffering from colic, is an example. 'Croupy' and 'headachy' are also good dictionary words, and there are probably others of the same kind. It is a little shorter to speak of a 'foul-broody colony' than to speak of a 'colony suffering from foul brood.'"

It seems hardly possible that Dr. Miller could have written the foregoing, because like "hybrid," "shook-swarms," "semi-hibernation," and similar terms, "foul-broody" is not scientific, not warranted by the dictionaries, and has no place in good usage of the language.

If Dr. Miller will refer to the Century Dictionary, which, I think, he will admit is good authority on words and their usage, he will find that when a word is given more than one definition they are numbered, the most accepted being called 1. Coming to "colicky" he will find the best definition is "Pertaining to or of the nature of colic, as *colicky* pains." The second definition is given as an example of an *American* colloquialism: "Afflicted with colic; subject to colic, as a *colicky* baby."

According to this, "colicky" does not mean having colic, but that the sufferer has pains which resemble those of the disease mentioned, which are dreadfully severe pains, while 'colicky' pains are slight and generally transcient in their character, and medical men use the word in that sense. When a person, old or young, is doubled up and howling with *colic* pains, we do not say he has "colicky" pains, but that he has colic. However if a person complains of fleeting pains in the abdomen we say he has "colicky" pains.

Now let us take up the word "brood." In the case of bees it means only "offspring; progeny," and *foul* brood refers to the *condition* of the brood *after* it has become diseased. Like "hybrid" and "shook-swarm," "foul-broody" is not a good dictionary word, is not warranted by good usage, is not good English, and there is not the slightest excuse for its use. Time is not so precious that we bee-men must have a "light year" system of nomenclature for things apicultural.

To carry the argument a little furthr, "croupy" does not mean afflicted with croup, except to express a simulation or a slight degree of the disease. I admit that "headachy" is a dictionary word, while not a "good" one, for it has never been used since Shakespeare's time, except poetically. It is not in common use, unless as a *Continental* colloquialism similar to "homely," meaning home-like.

There are but few words in the language like colicky, as croupy, gouty, rheumy, which last is used as is headachy, but where euphony will permit the terminal "y" might be used ad lib., as it is intended, as a rule, to express either the diminutive or simulation.

Like "New York," I should like to see more care used in the use of words, but what hope is there for those who write only occasionally, and without much thought, when editors will write about glass being "one of the very best conductors of heat?" See encyclopedia Britanica to the countrary; "hybrid" when they mean mixed; "shook-swarm" for a transferred colony; and last, and worst of all, "foul-broody" to tell us that a colony ot bees has contracted and has the disease known as foul brood?

Please do not come back at me with examples of my bad English, for I learned some of it reading bee-papers.

Buck Grove, Iowa. A. F. BONNEY.

Experience with Foul Brood

Some of my experience you will find in the March (1910) number of the American Bee Journal, page 100. In this, I will give a little experience with foul brood. I had kept bees about 12 years before I saw a case of foul brood, and I had such a dread of it as a result of the information gathered from text-books and bee-papers, I supposed the best thing to do when I found a case was, at that time, to make a bonfire of the whole thing. In Eastern Kansas, in 1902, I had 20 colonies of bees, and when I opened the first hive in the spring I found a bad case of American foul brood. I regretted to destroy the colony as it contained a pure Italian queen, which I had reared the summer before, but having such a dread of foul brood, I applied the torch to the hive and burned the whole mass. Then I went through the remaining colonies and found about two-thirds of them affected, but none so badly as the one I had burned.

After thinking the matter over, I decided not to destroy the rest, and to get a little experience with foul brood. I looked up the remedy given in "Langstroth Revised," but I decided it was too much trouble to apply the remedies given there, so I carried out a plan of my own. I put 1 ounce of crystallized salicylic acid in 8 ounces of alcohol, as recommended in "Langstroth Revised," and 60 drops of this in 4 ounces of water. Then I tied together two feathers with one quill above the other, so I could run one quill into the cells. I would run the quills into the bottle and when drawn out, turn the quill end down, and run the quill into any diseased cell I could find. The medicine would run down the quill into the cell, and at the same time I would stir the diseased mass with the end of the quill. If I found a very bad patch I would take the brush end of the feathers and brush it over thoroughly with the medicine. This will kill a few bees. Twice a week I would run through them when they were so bad. It takes careful looking and a critical eye to see at a glance any cell infected.

Later I went over them once a week, so I got through the summer without the loss of a colony with a fair crop of honey, and then regretted burning my nice queen. My bees still had the disease in fall, but I had it under control. The next spring I kept up the same treatment, but the great Kansas flood came, and took 12 of the 19 remaining colonies, and I suppose landed them in the Gulf of Mexico. I fixed up the remaining 7 hives, caught a stray swarm, and increased to 11 colonies. I would not have increased any, but I had to stack my bees on account of a flood, then when I put them on their old stands so many field-bees returned to where I had them stacked up. I put a frame of brood in a decoy hive and by this method made 3 colonies.

After I got the bees in shape after the flood, I had my first and only experience with the "swarming fever." The bees got so anxious and determined to swarm that they would swarm without even starting a queen-cell. But I kept the queens clipped, and by a good deal of trouble kept them in the same number of hives, as I had all the foul brood I cared for.

I continued the treatment as I had opportunity, as I had to be away from home a good deal of the time, but I came out in the fall with still a trace of the disease, but the biggest crop of honey I ever got in my life, as high as 125 sections from 1 colony, and 2 supers filled by the swarm I caught the 1st of June. Now I kept up this treatment until the fall of 1908, when I left that part of the country, and I took all the honey from the bees and rendered the combs into wax, and used the hives for kindling. When I did this I only found a slight trace of the disease in two hives, and the remaining 9 seemed to be entirely free.

I don't believe this method would be practical for one who had a large number of infected colonies, but to those who have foul brood, I would say, don't destroy your bees so you will be the loser. I believe if I had many colonies of bees, I would treat them thus for one season, and when they got through gathering I would then take all their honey, render the combs into wax, and disinfect the hives and start anew. I would buy a new start of bees from the sale of the honey taken from them.

In conclusion, I would say, 1910 was a poor year here for bees, and our crop of honey was light. In August I looked into a swarm my wife saved one day while I was in the field, and found what I call a nice case of American foul brood, but before I could get in touch with the Department of Agriculture at Washington, to whom I sent a sample, the bees had so nearly stopped brood-rearing that I could not get a very good sample, and they reported that they could not make a good diagnosis of the case from the sample sent. I am now awaiting spring development of the case. It is exactly like I had in Kansas. I will try and tell how it comes out, next year. E. G. HANNA.

Atwood, Ill., Dec. 8.

Bee-Keeping in Missouri

I have a communication from a subscriber of the American Bee Journal who lives in Michigan, who saw my article in the December number. He wishes to know something about Missouri and its resources. He says he has been a reader of the American Bee Journal for the past 15 years, and of other bee-papers, and has been a bee-keeper for the past 30 years; he wants to come down this way to locate. I could hardly give the resources of our diversified pursuit in one short article, but will endeavor to give some of them, anyway.

In regard to bee-keeping, I think Missouri is like many other places—it has good and not-so-good places, and also has its failures as well as successes. Some seasons many of our leading bee-keepers get bountiful crops of honey; I know of some that have secured over $1000 to $1500 of honey in a season, and, a few, more than that. I have also known many to get from nothing to some just a little almost every season; it depends considerbly upon the bee-keeper, here as well as elsewhere; yet I have known a few seasons that surplus honey was a complete failure in many places, and, in some cases, bees have starved; yet with all this I am of the opinion that Missouri is as good a State in which to keep bees as we have.

According to the Labor Bureau, there are over 50,000 bee-keepers in this State. I do not have all the latest figures on bee-keeping in Missouri, but some years ago the products were given by the statistics thus: "Honey, 6,015,000 pounds worth over $769,000 (a low estimate on the honey). The value of the bees was given as $391,000, making a total valuation of $1,160,000, and nothing said about beeswax, which would swell the figures considerably more. I am sure that with the special notice bees have had in our State the past several years, bee-keeping has advanced considerably more than when these statistics were obtained, so the industry, I should think, would amount to nearly 2 million dollars at the present time. I also think that this is a good credit to Missouri when one considers that the bee-industry in the United States is said to be a little over 20 million dollars per year.

All through the northern part of our State a great many are keeping bees, which shows that it is a good bee-country; then in the southern part of the State, where there are so very many orchards of a large acreage in many places, I would think that such would be a good place for the bee-industry. While we have some large orchards in the northern part of the State, in the south there are many more; yet I think in this part, bee-keeping, as a rule, is the best. Bees do best in the older settlements where there is plenty of white clover and Spanish-needle, as these do not prevail to any great extent in new or undeveloped places, yet the southern part of the State is now very fast being occupied almost everywhere; land is yet much cheaper, as a rule, in the Ozark country than in the northern part of the State, though some land is bringing nearly as much there as here, in certain cases.

I can give no idea what the bee-industry would amount to in this State per year, if all the bees were kept on the modern plan of improved hives and fixtures, and properly manipulated, as I am sure that not one-tenth of the people keeping bees in our State do so.

Missouri is well known as a horticultural State, where grows the "big red apple." One can do that along with bee-keeping, and not only not interfere with it, but be a great help.

Then, again, the figures given on the poultry business in our State for 1909 were these: Egg output, $22,309,507; the poultry output, $23,493,148—total of $45,-902,655, besides the surplus feathers which were $3,089,502, and that used in families (the amount not given), so our poultry products amount to more than twice as much as all the silver mined in the whole United States in a year. Poultry can also be carried on in connection with bee-keeping. The statistics I have given may seem large, but I could give some more of the resources of our State, but deem the above sufficient for this time, for some may think I am boasting.

We also have a much warmer climate in Missouri than in the Northern States, especially in the Ozarks, where there are only a very few days at any one time of very cold weather. Many have the idea that the Ozarks are a very mountainous country, yet in a great many places one can find as level country as anywhere, as mountainous places do not occur as often as one might think.

Mexico, Mo. J. W. Rouse.

A Report from Ontario

The honey crop of 1910 in this part of Ontario was fair. There have been better years, but I got about 400 pounds from 6 colonies, spring count, and increased to 11. I had to double up a couple of them so that left me with 10, but I bought one colony last fall so I have 11 now.

I live here on the farm home, and work the farm, so I haven't very much time to work with the bees, but with my teacher (the American Bee Journal—and it's a good one), I do the best I can and get along very well. I use some Langstroth full-depth hives and some divisible brood-chamber hives, Langstroth size, on top and bottom, but only 5 inches deep. I am going to have all that kind next season, so I can use the same supers for hive-bodies as well. I run for extracted honey mostly, except only about 100 sections or so in a year. I ship my honey to the city, as extracted honey will ship much safer than comb, and it is more profitable for me.

There are quite a few around here who keep bees (can't call them bee-keepers), but they don't make anything out of them because they never look after them. They let them swarm all they like. Some of them catch the first swarms and let the rest go. In the fall they do the most horrible thing of all, that is, they brimstone them for their stores. If you ask them to take a bee-paper or get a bee-book, they say, "Oh, I know enough about them. There is no money in them, anyway." If they only would look after the bees right, it would pay them 100 percent. I make money on the bees. So could anybody if he went at it rightly.

My bees are all right yet, but they have lots of time to die before spring. They are on summer stands packed with the super full of leaves over a sheet of sacking over the brood-chamber, and tarred felt wrapped around them. The winter has been pretty cold and stead so far.

The American Bee Journal is a great help to me, and I wouldn't like to do without it. R. R. Victor Tippett.

Quays, Ont., Feb. 6.

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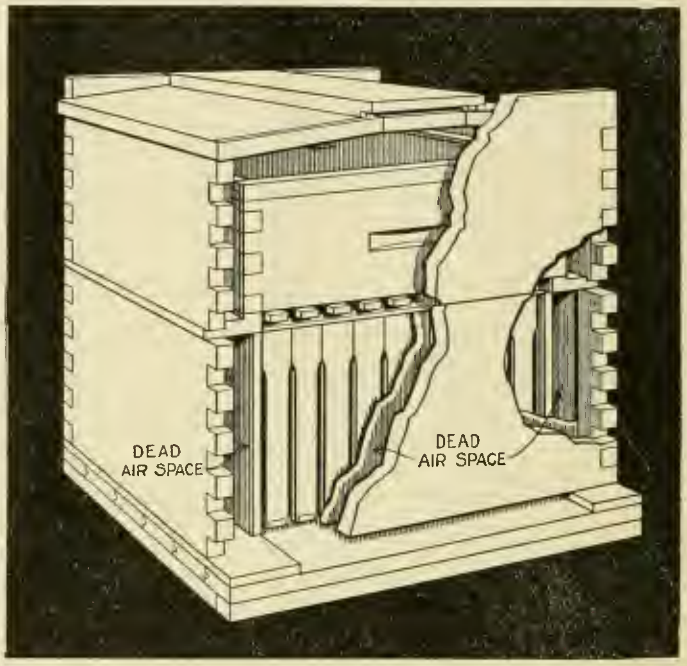

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2A3t J. F. Michael, Winchester, Ind.

Post Cards—30 for 25 cents. Beautiful, colored, embossed Birthday, St. Patrick's Day, Easter, United States or Foreign Views; Landscapes. Hahn, 254 N. 15th St.,
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Beeswax Wanted.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, George W. York & Co.,
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Fine Gladiolus.—Build up your collection of Gladiolia by planting bulblets; they are easy to grow. 200 bulblets of a fine mixture by mail for 25 cents. About 15000 for $1. W. A. Pryal, 101 Pryal Ave., Sta. E, Oakland, Cal.

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2Atf W. J. Littlefield, Little Rock, Ark

A Wonderful Photograph.—I have photographed a mountain range 95 miles away, beating all previous records by 30 miles. Better still, I have made a picture, a most unusual thing in tele-photography. The subject is Mount Baker, Wash., a snow-clad mountain 11,100 feet high; the point of view is Victoria, British Columbia. For beauty the scene is not excelled on earth. In the immediate foreground is a solid bank of primeval forest, then come the Haro Straits, 45 miles wide, dotted with many islands; next rise the foothills blending into the snowy grandeur of the Rocky Mountains, with Baker towering high above—a silent sentinel. I have also photographed the Olympic Mountains, Wash., from Victoria, a distance of 65 miles, again getting a picture. It took me 18 months' persistent effort to get them, but I will not bother you with my troubles. I am selling prints from the original negatives, 6½x8½, at $1.50 each, but will supply the pair for $2.00. They are printed on heavy cream paper, ready for framing. F. Dundas Todd, Market St., Victoria, B. C., Canada.

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I Want good flavored Comb Honey in any kind of boxes; also Extracted. Give price.
3Atf O. N. Baldwin, Baxter Springs, Kan.

Wanted—White clover, basswood and amber extracted honey. Give prices and description. P. B. Ramer, Harmony, Minn.

For Sale.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

Wanted — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

Honey Wanted.—We are in the market for both extracted and comb honey. Let us know what you have, with sample of extracted honey, lowest prices f. o. b. Chicago, how put up, etc. Address,
George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

The Mercantile & Warehouse Co., 141 Moss Ave., Oakland, Calif., have an advertisement of sweet clover seed on another page of this issue. We hope that our far Western readers will send in their orders to this advertiser, and be sure to mention having seen their advertisement in the columns of the American Bee Journal.

Souvenir Bee Postal Cards

We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for $1.10. Send all orders to the office of the American Bee Journal.

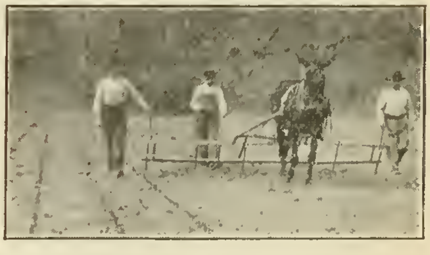
"Bee-Keepers' Guide"

This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, $1.20; or with a year's subscription to the American Bee Journal—both for $1.90. Send all orders to the office of the American Bee Journal.

"Langstroth on the Honey-Bee"

This is one of the standard books on bees. It tells in a simple, concise manner just how to keep bees. It was originally written by Rev. L. L. Langstroth, who invented the movable-frame hive in 1851. The book has been brought right down to date by Dadant & Sons, than who there are no better or more practical bee-keepers in this or any other country. It contains nearly 600 pages, is fully illustrated, and is bound in cloth. Every topic is clearly and thoroughly explained, so that by following its instructions no one should fail to be successful with bees. Price, postpaid, $1.20; or with the American Bee Journal one year—both for $2.00. Send all orders to the American Bee Journal.

Marking for Planting Strawberries.—Here is a good suggestion from W. W. Thomas, the strawberry plant man. After trying various kinds of markers Mr. Thomas says he has found the one shown in the picture the most practical, and it can be made by any blacksmith. The rods that do the marking are steel, sharpened at the lower end. They make marks that are not easily obliterated by rain, and can be seen for several days. Any of our readers who would like further information can get it by writing W. W. Thomas, 152 Main St., Anna, Ill.



We are first hands for choice California-grown

YELLOW BLOSSOM

Melilotus Seed

(Sweet Clover)

For introductory purposes, and that bee-men may test this valuable California product, we offer to deliver at your nearest express office, all charges prepaid by us, one 5-pound package of hulled seed (will sow ⅓ acre) for $1.25; two packages, $2.25; five packages, $5.00.

Samples mailed, and larger quantities quoted.

The seed is from our own harvest, is fully matured, free from noxious weed-seeds, and possesses high germinating qualities.

If you wish other **California Grown Seeds,** write us.

Mercantile & Warehouse Co.
141 Moss Ave.
Oakland, California

Please mention Am. Bee Journal when writing.

Marshfield Sections

Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

Bees for Sale

As usual, we will offer Italian bees in full colonies, and also nuclei for sale the coming season. Full colonies in 8-frame Langstroth hives, at $7.00 each; or in lots of 5 or more, $6.50 per colony; in 10-frame hives, $7.50 each, or in lots or 5 or more, $7.00 each. Three Langstroth-frame nuclei with queens, $3.75 each; or in lots of 5 or more, $3.50 each. Cash with order. These prices are f. o. b. cars 100 miles west of Chicago. Full colonies we expect to be able to ship any time after April 15th, and nuclei after May 10th. "First come first served." Address,

George W. York & Company,
117 N. Jefferson St., Chicago, Ill.

Please mention Am. Bee Journal when writing.

Queens Ready Now!

Not Cheap Queens,
But Queens Cheap.

Prices of 3 and 5-Band Queens.

3 Band	Untested Queens,	1, $ 0.75;	6, $ 4.20
3 "	Tested "	1, 1.00;	6, 5.70
3 "	Breeder "	1, 5.00;	6, 25.00
5 "	Untested "	1, 1.00;	6, 5.70
5 "	Tested "	1, 1.5;	60, 8.70
5 "	Breeder "	1 10.00;	6, 50.00
3 "	Nuclei 1-fr. with Unt. Queen		1.75
3 "	" 2-fr. " " "		2.25
3 "	" 1-fr. " Test. "		2.00
3 "	" 2-fr. " " "		2.50
3 "	Full Colony " Unt. "		4.75
3 "	" " " Test. "		5.00
5 "	Nuclei 1-fr. " Unt. "		2.00
5 "	" 2-fr. " " "		3.00
5 "	" 1-fr. " Test. "		2.50
5 "	" 2-fr. " " "		3.50
5 "	Full Colony " Unt. "		8.00
5 "	" " " Test. "		0.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

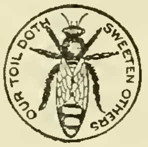
W. J. LITTLEFIELD,
R. F. D. 3 LITTLE ROCK, ARK.

Please mention Am. Bee Journal when writing.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE. — One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."


OUR TOIL DOTH SWEETEN OTHERS

The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.
- CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for April.

One Tested Queen...	$1.85
" Select Tes. " ..	2.40
" Breeder Queen..	3.65
" Comb Nucleus—no queen........	1.50

Safe arrival guaranteed.

For prices on larger quantities, and description of each grade of Queens, send for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

Please mention Am. Bee Journal when writing.

Langstroth on the Honey-Bee

Revised by Dadant. Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. Bound in substantial cloth, and has nearly 600 pages. Revised by that large, practical bee-keeper, so well known to all beedom—Mr. C. P. Dadant. Each topic is clearly and thoroughly explained, so that by following the instructions of this book one can not fail to be wonderfully helped on the way to success with bees.

We mail the book for $1.20, or club it with the American Bee Journal for one year—both for $2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

GEORGE W. YORK & CO.
- CHICAGO, ILL.

Northern Michigan Convention.—The Northern Michigan Bee-Keepers' Association will hold its next meeting at Traverse City, Mich., Wednesday and Thursday, March 15 and 16, 1911. The headquarters will be at Hotel Whiting, where the sessions will also be held. The first session will begin at 1 p.m. on Wednesday. The program will include discussions of various questions relating to bee-keeping, marketing honey, etc. A number of prizes are offered for the best exhibits of comb honey, extracted, and beeswax. For a copy of the program and further particulars that may be desired, address the Secretary, Ira D. Bartlett, East Jordan, Mich.

◆

North Texas Convention.—The North Texas Bee-Keepers' Association will hold its next meeting at Enloe, Delta Co., Tex., the first Wednesday and Thursday in April—5 and 6—1911. All bee-keepers are cordially invited to attend. We expect to have a great time.

J. M. HAGOOD, *Pres.*, Enloe, Tex.
W. H. WHITE, *Sec.*, Greenville, Tex.

◆

Walter S. Pouder, 859 Massachusetts Ave., Indianapolis, Ind., has sent us a copy of his 1911 catalog of bee-keepers' supplies. It is very neatly gotten up, and offers a complete line of everything used in an up-to-date apiary. Mr. Pouder has been an advertiser in the American Bee Journal for many years, and is one of Indiana's best representatives of beedom.

◆

Aug. Lotz & Co. are bee-supply manufacturers and dealers at Boyd, Wis. They are sending out a very neat catalog. We understand they have increased their business wonderfully during the past few years, and no doubt will be among the leading bee-supply manufacturers of this country in a few years more. We wish them every success.

MARSHFIELD GOODS

BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER
Pat'd 1878, '82, '92 & 1903

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50	4 inch stove
Doctor—cheapest made to use	1.10	3½ "
Conqueror—right for most apiaries	1.00	3 "
Large—lasts longer than any other	.90	2½ "
Little Wonder—as its name implies	.65	2 "

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.

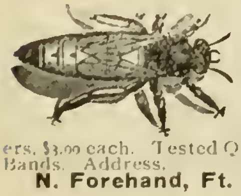
Patented, May 20, 1879. BEST ON EARTH.

Italian Queens Any Month

In the year, from my Jamacia, B. W. I. yard; from Yonkers after May 1. Italians, Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.50; Breeders, $3.00. Others 25c extra. Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Gleanings, Bee-Keepers' Review, A B C, and Langstroth for $3.50 by mail, 50c extra. "The Swarm," by Materlink, by mail, 75c; regular, $1.30. Root's supplies. Send for catalog. 3A1y

W. C. MORRIS,
Nepperhan Heights, YONKERS, N. Y.

SOUTHLAND QUEENS



Bred from the best Goldens. 3-Band from Imported mothers. 25 years' experience as breeder. Untested, 75c. each; Sel. Unt., $1 . Tested, $1.25 each; Sel. Tested, $1.75 each; Breeders, $3.00 each. Tested Queens are mated 3-Bands. Address,

N. Forehand, Ft. Deposit, Ala.

MOTT'S
Strain of R. C. Italians

Are the best. Natural 5-Banded Golden R. C. Queens from imported Italian stock. My 10-page Descriptive Price-List tells all about my bees. It is free. Untested, $1.00 each; $9.00 per doz. The Natural Golden R. C., $1.10 each; $10 per doz. Reduced rates after July 1st. See list. Nuclei, also Bees by half and pound. See list. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**
Please mention Am. Bee Journal when writing.

BEE-HIVES
and Supplies

at factory prices. Satisfaction guaranteed or your money refunded. Our G. B. Lewis Co's. make is best of all. This Ad. may not appear again, so just drop me a card today for my Catalog.

W. H. FREEMAN, Peebles, Ohio
Please mention Am. Bee Journal when writing.

Wanted

Fine Qualities of
White and Light Amber
Extracted Honey

Send samples with Lowest Prices, f. o. b. New York. Also state how it is packed, an the quantity you have.

We are always in the market for

◈ **Beeswax** ◈

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.
Please mention Am. Bee Journal when writing.

Golden and 3-Band Italian Bees & Queens | **From Extra SELECTED MOTHERS**

Prices	1	6	12
Untested	$1.00	$ 5.00	$ 9.00
Selected Untested	1.25	6.50	12.00
Tested	1.50	8.00	15.00
Selected Tested	2.00	11.00	21.00
8-Frame Colony	6.00	33.00	61.00
3-Frame Nuclei	3.75	21.25	40.00
2-Frame Nuclei	3.00	17.00	32.00

Safe arrival. I am now booking orders for early spring delivery. Twenty-two years' experience. Send your orders to—

E. A. SIMMONS,
3Atf GREENVILLE, ALA.
Please mention Am. Bee Journal when writing.

"If goods are wanted quick, send to Pouder"
(Established 1889)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Walter S. Pouder, Indianapolis, Ind. **859 Massachusetts Ave.**

CAPON TOOLS

CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c. Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*
G. P. Pilling & Son Co., Philadelphia, Pa.

Please mention Am. Bee Journal when writing.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

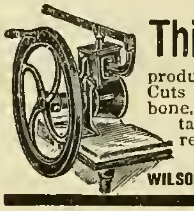
Better Fruit Publishing Co. HOOD RIVER, OREGON.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.
☞ The oldest Bee-Supply Store in the East. 2Atf



This Bone Cutter

produces filled egg baskets. Cuts fast and easy. Green bone, scraps from table, vegetables, scrap cake. Always ready for use.
Send for catalog.
WILSON BROS., Box 814 EASTON, PA.

Practically 5 Months to Honey-Flow and the Market Bare of Extracted Honey!

These are the conditions which actually exist at the time this advertisement is written. We do not know of a car-load of No. 1 Extracted Honey to be had anywhere.

A shortage at this early date brings before bee-keepers the necessity of considering well the production of extracted honey in large quantities. To the bee-keeper who likes bees, but whose limited equipment will not permit extensive culture, a **real** opportunity is presented. **The production of Extracted Honey is only an infant industry.** More and more the public demands honey put up in this attractive form.

What do you know of producing Extracted Honey? What would you know? Are you interested enough to read a booklet on the subject we have prepared for your benefit, and will send to you **free?** "How to Produce Extracted Honey" is the whole story in a nutshell. It covers the problems and possibilities from beginning to end. You ought to read this booklet if you keep bees at all.

Honey-Extractors and Supplies for Bee-Keepers

Everything in the way of Hand and Power Honey-Extractors and in the line of Bee-Keepers' Supplies is listed and described in the **Root** 1911 catalog. You ought to have a copy for ready reference—for money-saving. Send your name, ask for the free Extracted Honey booklet and New Catalog. Ask any other questions if you like.

The A. I. Root Co.
213 Institute Place, CHICAGO, ILL.
R. W. BOYDEN, Mgr. (JEFFREY BUILDING) Telephone 1484 North.

"GRIGGS SAVES FREIGHT"

TOLEDO

The greatest Distributing Point in U. S.

Do you Realize this? It means something to you, **Mr. Bee-Man**

We carry the Largest Stock of of them all.

Deal with a

Practical Bee-Man

who can give you practical advice on BEES.

25 years a Successful Bee-Keeper. Try him. **Catalog Free.**

S. J. Griggs & Co.,
24 North Erie St.,
TOLEDO, - OHIO.

Successors to Griggs Bros Co.

"GRIGGS THE KING-BEE."

Please mention Am. Bee Journal when writing.

Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Ilustrated Bee-book for beginners—."A gem." Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for—— 1Atf

"Falconer"

—— Write for Catalog.

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,
Berclair, Goliad Co., Tex.

Please mention Am. Bee Journal when writing.

Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. Lyons,
8A12t Rt. 5, Box 88, Ft. Collins, Colo.

Please mention Am. Bee Journal when writing.

Prices of Carniolan Gray-Banded Alpine Bees.

No.	**Stock and combs minutely examined regarding absolute health. No foul brood or disease of bees in the Alps.**	March April May	May	June	July Aug.	Aug. Sept. Oct.
1	QUEEN, select tested	$5.00	5.00	$3.50	$3.50	$3.00
2	NUCLEUS, with select tested queen; weight of bees, one pound net	6.00	6.00	5.00	4.50	4.50
3	NUCLEUS, with select tested queen; weight of bees, two pounds, net	....	7.00	7.00	6.50	6.50
4	NUCLEUS, with select tested queen, 7 half frames, of German Standard size	....	8.00	7.00	7.00	7.00
5	MOBIL HIVE, with select tested queen, 10 half frames of German Standard size, transferred winter stock with brood and honey	9.00	9.00	....	....	....
6	CARNIOLAN ORIGINAL HIVE, very strong sel. tes. queen, brood, honey; will produce 2 to 3 swarms; the combs can then be cut out and transferred to mobil hives	9.00	9.00	9.00	....	8.00
7	MOBIL HIVE, full colony, can be opened from three sides; select tested queen, brood, honey, 17 German Standard-Vienna or Badensische half frames	9.00	10.00	....	....	9.00
8	QUEEN, select untested	10.00	....	2.00	2.00	....

German Standard half-size width, 8¼ in.; height, 7¼ in. Badensische Union half-size width, 9½ inches; height, 8½ inches. Vienna Union half-size width, 9½ inches; height, 8¼ inches.

Other sizes ordered charged 10 cents a piece if not larger than these.

Safe arrival of queens, nuclei, and hives guaranteed. International postal money order with every order. Give correct and plain address. Mailed, postage free, queens and nuclei under Nos. 1, 2, 3, 8; postage or freight paid by receiver for shipments under 4, 5, 6, 7. Eventual dead queens or dead stock replaced if returned in 24 hours after arrival in postpaid package. Orders, to be effected at other times than the months above stated, will be filled, provided weather and other conditions make it possible. Write for the booklet, "The Carniolan Alpine Bees." References respecting financial and commercial responsibility of the undersigned Association can be had at every Imperial and Royal Austro-Hungarian Consulate in the U. S. of America. Orders amounting to $50, ten percent discount; $50 to $75, fifteen percent discount; over $75, twenty percent.

Special Contracts with Dealers. Write English.

The Imperial-Royal Agricultural Association, Ljubljana, Carniola, (Krain)
AUSTRIA

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.) **Send for Catalog.**

148 West Superior St., CHICAGO, ILL. **Enough said!**

Increase Your Honey Crop

By introducing some of OUR **Famous Honey-Queens.** Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.**

Will sell Queens the following prices, May to Nov.,

Untested Queen, $1.00; 6 for $5.50. Tested, $1.50; 6, $8.50. BREEDERS, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

Please mention Am. Bee Journal when writing.

Extra-Good Queens!

So sure am I that my Leather-Colored Italian Queens are Extra-Good, that I will guarantee them to please you, or return your money.

"S. F. TREGO:—I am very much pleased with your Queens, and you may expect more orders next season. Your Queens are the best I ever bought from any breeder in the U. S.—A. R. BRUNSKILL, Canada."

One, 90c; six, $4.75; doz. $9.00.

After July 1st, 70c; six, $3.75; doz. $6.50; 20 or more, 50c each.

No disease. Prompt shipment. 3A7t

S. F. Trego, Swedona, Ill.

Please mention Am. Bee Journal when writing.

Comb Foundation
BEE - KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of
Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.
Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

Please mention Am. Bee Journal when writing.

Mr. Bee-Man

We carry in stock the well-known
Lewis Beeware, Bingham Smokers, Dadant's Foundation, or Anything the Bee-Keeper may need. **Catalog Free.**
Beeswax Wanted.

The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Why Pay More than 25 Cents?

for a Poultry Magazine when you can get
The National Poultry Journal
FOR EVEN LESS

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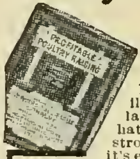

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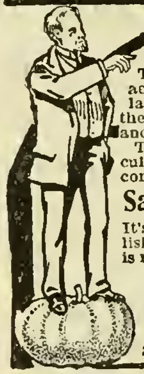

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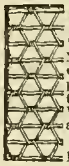

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COILED SPRING FENCE CO.
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Bargain Bee - House
for Busy Bee-Keepers

We guarantee safe delivery.

We guarantee satisfaction, and if Goods are not as represented I will refund the money.

We have customers all over the country, and our Catalog is yours for the asking.

EGGS in season, of the Barred and White Plymouth Rocks, and the White Wyandotte—$1.00 per 15.

H. S. Duby, St. Anne, Ill.

References—First National Bank, St. Anne, Ill., or the bee-papers.

Standard Breed Queens!

Of the Highest Quality. Reared from our Superior Golden Stock. Will be ready by April 15th. Untested, $1.25: 6 for $6.00; 12 for $10.00. We are prepared for prompt service. and plenty of Queens in their season. No disease, and hustlers for honey.

T. S. HALL,
Talking Rock, Pickens Co., Ga.

Honey And Beeswax

Chicago, Feb. 28.—The market on honey generally is dull, especially is this true of comb, which, aside from the fancy grades, is not sought for. The clover and linden grades of extracted are very scarce and bring 10c per pound. Other white grades sell at 8@9c; amber, 7@8c. Beeswax, 30@32c.
R. A. Burnett & Co.

Denver, March 1.—The market is sluggish. The following are our jobbing quotations: No. 1 white comb honey, per case of 24 sections, $3.15; No. 1 light amber, $2.93; No. 2, $2.70. Strictly white extracted, per pound, 9c; light amber, 8@8¼c; amber and strained, 6¾@7½c. We pay 26c cash, or 28c in trade, for clean yellow beewax delivered here.
The Colo. Honey-Producers' Ass'n.
F. Rauchfuss, *Mgr.*

Toledo, O., Feb. 21.—The demand for fancy comb honey is good for this season of the year, and finds ready sales at the following prices: Fancy, in 3-inch glass cases, 17@18c; No. 1, 16@17c. No demand for amber or off grades. Extracted is in good demand at following prices: White clover, in cans, 9@10c; amber, 8@8½c. Beeswax firm at 30@33c.
S. J. Griggs & Co.

New York, Feb. 28.—The demand for comb honey is quiet, even for fancy and No. 1 white stock, while off grades and buckwheat are in very little demand. Our market is heavily stocked, and we will have to use all our efforts in trying to dispose of what we have on hand, during the next few months, so as not to carry any over. We quote: No. 1 and fancy white at from 14@15c per pound; off grades at from 11@12c; buckwheat and mixed at from 9@10c. There is a fair demand for extracted; mostly for fancy goods, and same is finding ready sale at around 9c; buckwheat slow selling at from 6½@7c per pound. Beeswax steady at from 29@30c.
Hildreth & Segelken.

Kansas City, Mo., Feb. 28.—The demand for both comb and extracted honey continues light, and the supply is not large. We quote: No. 1 white comb, 24-section cases, per case, $3.25@$.3.35; No. 2, $3.00; No. 1 amber, $3.00@$3.25; No. 2, $2.50@$2.75. White, extracted, per lb., 8½@9c; amber, 7@7½c. Beeswax, 28@30c. C. C. Clemons Produce Co.

Zanesville, Ohio, March 1.—While there is some demand for honey, the market is not active. No offerings at this time. Best grades of comb go to the retail grocery trade at 18c. Extracted is quoted at 10½c, in 60-lb. cans. For beeswax, producers are offered 28c cash, or 30c in exchange for merchandise.
Edmund W. Peirce.

Boston, Feb. 28.—Fancy and No. 1 white comb honey, 15@16c. Fancy white extracted, 11@12c. Beeswax, 30c. Blake,-Lee Co.

Cincinnati, March 4.—There is no change from the last quotation. Comb honey is selling slowly from $3.75@$4.00 per case. Fancy extracted honey, in 60-lb. cans, from 9@11c per pound; amber honey in barrels, from 5¾@7½c. These are our selling prices. We are paying 30c cash, or 33c in trade, for choice bright yellow beeswax; the darker from 1@2c less. The Fred W. Muth Co.

Indianapolis, Feb. 20.—There is a good and steady demand here for best grades of comb and extracted honey. Jobbing houses are well supplied, but practically none is now being offered by producers, and it is evident that there will be a shortage before the new crop can arrive. Fancy white comb is being offered at 18c; No. 1 white at 17c; extracted, 11c, with some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 28c cash, or 30c in trade.
Walter S. Pouder.

Cincinnati, Feb. 28.—Comb honey is in fair demand, and is selling at $3.75 per case for No. 1 white. Amber extracted in barrels is selling at 7c; in cans, 7½@8c. White extracted honey in 60-lb. cans, 9@10c. California light amber, 8½c. All grades of extracted honey are in fair demand. Beeswax is in fair demand at $32 per 100 pounds. These are our selling prices, not what we are paying. C. H. W. Weber & Co.

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ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars, 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1⅜ sections.

Car-load Section orders a specialty.

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3A6t **MINNEAPOLIS, MINN.**

Please mention Am. Bee Journal when writing.

Get This Extra Discount!

No bee-keeper can afford to ignore our early-order appeal. Past experience must have shown you that it does not pay to wait until the honey-flow is on to place orders for bee-supplies. The prudent bee-keeper does not delay. Not only does he anticipate his requirements for the coming season, but he seeks to save the 2 PERCENT DISCOUNT ON MARCH ORDERS we now offer. If you get your goods early you will avoid the rush of the busy season later on, and you can really buy to better advantage now than at any other time during the year.

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Poultry Supplies A special catalog of these goods, which we will gladly furnish free upon request.

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Ours is "the **only** bee-supply house in the business section of Chicago." The location is not only the most convenient for those who call for their goods, but our proximity to all the railroads and express companies places us in a position to give the best service which bee-keepers in the Middle States have ever enjoyed. Your orders will be sent by mail, or forwarded by freight or express the same day received.

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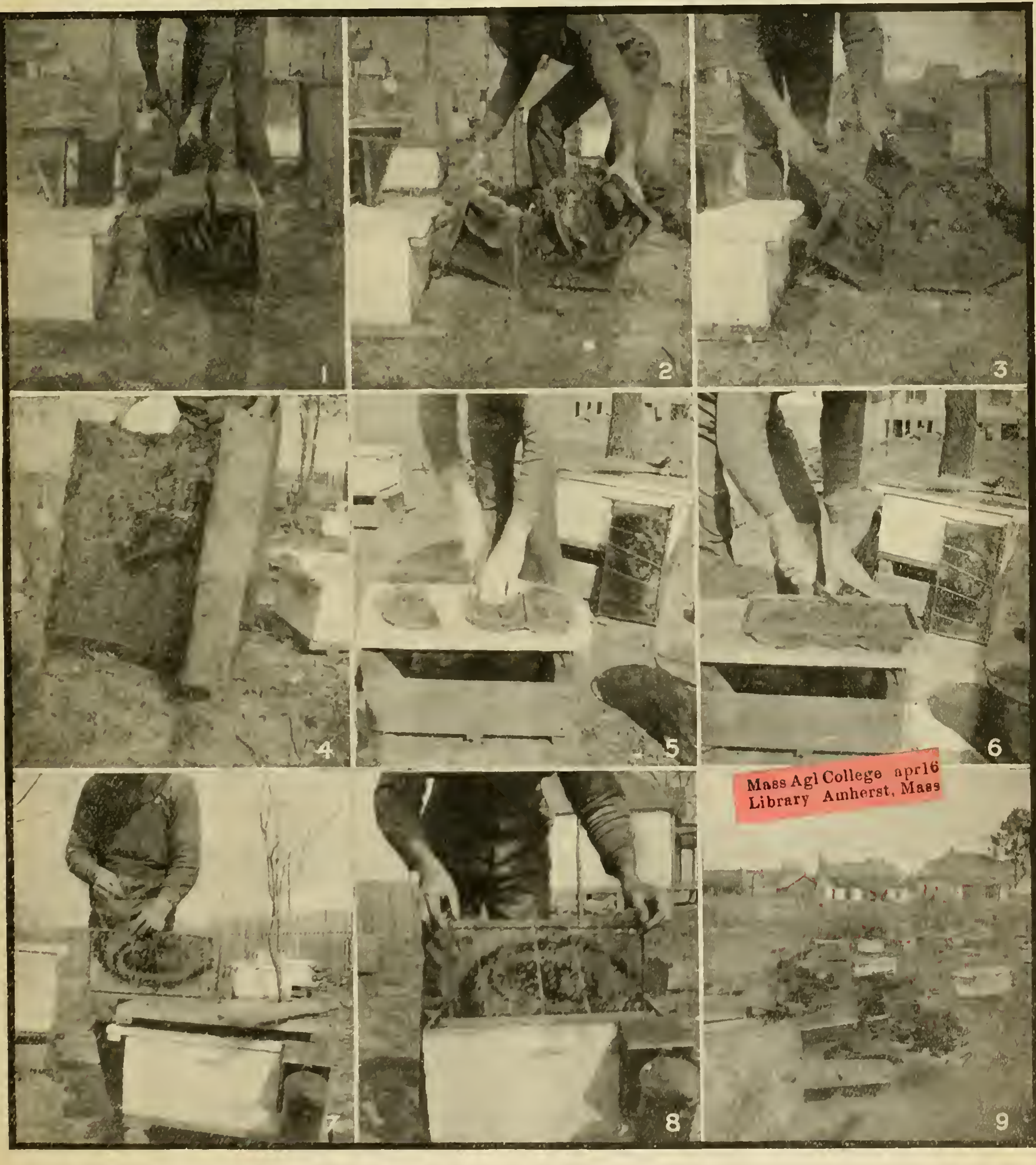

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J. J. Wilder's Method of Transferring Bees from a Box-Hive to a Movable-Frame Hive—See page 118.

AMERICAN
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OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

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1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

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One dollar a year.

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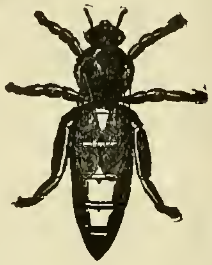

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Our Standard-Bred

6 Queens for $4.50; 3 for $2.50; 1 for 90 cents.

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

George W. York & Co.:—The two queens received of you some time ago are fine They are good breeders, and the workers are showing up fine I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co, Kan, July 15. A. W. Swan.

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Ontario, Canada July 22. Chas. Mitchell

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One, 90c; six, $4.75; doz. $9.00.
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No disease. Prompt shipment. 3A7t

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Don't delay placing your order.

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From MOORE'S famous strain. Enough said! None better. One, 90c 6, $4.50. Order early.
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Write for prices in large quantities.

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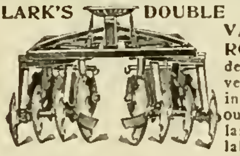

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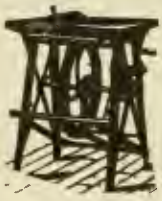

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4¼x4¼ 1-Piece 2-Beeway Sections

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AMERICAN BEE JOURNAL
L.L. LANGSTROTH
CHAS. DADANT

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at $1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., APRIL, 1911

Vol. LI---No. 4

EDITORIAL COMMENTS

Cartons for Comb Honey

From H. R. Wright has been received a carton such as he prefers and urgently advises. Instead of thin paper, such as has been heretofore used, this carton is made of very substantial pasteboard. Instead of being closed on all 6 sides, it is entirely open top and bottom, so that the section is easily slid in or out. There is then no such thing as the bottom of the carton sticking to the bottom of the case. With the older cartons this happens, and the thin paper tears and spoils the carton. When the delivery-man takes the sections from the grocers, this solid pasteboard prevents breakage of the cappings of the section. One can readily see that with a covering of common paper only, a section is in great danger of being injured on its way from the grocer to the consumer.

The carton makes the section less liable to injury during shipment, but of course the shipping-case must be larger. The cost of these cartons is about $3.00 a thousand. If the sections are sold by weight, the carton is weighed in with the section, in which case there is no extra cost to the producer. As, however, the tendency is more and more to sell by the section or case, the cost will generally come upon the producer. As this is less than a third of a cent per section, in the long run it may be that he can well afford the expense.

Migratory Bee-Keeping a Success

For some reason, transporting bees from North to South, or from South to North, in order to take advantage of the two different seasons in the same year, has not proved a great success in this country. The attempt has been made to start on the Mississippi early in the season and gradually move northward with the season. On paper it sounds very plausible, making a continuous season from the time the harvest opens in the South until it closes in the North, but in actual practice it has not been a paying scheme.

Now, however, we have a very interesting account in the Bee-Keepers' Review of a very successful venture by H. C. Ahlers, not at all by way of gradual moving with the season, but by swiftly moving the bees by rail from one extreme to the other. In February he bought 153 colonies of bees in Kenner, La. From these he harvested up to April 1, 6000 pounds of honey and 60 pounds of wax. He then made increase, having previously started nuclei. April 22 he loaded the bees on a car, and in 90 hours they arrived at West Bend, Wis.

He started the season in Wisconsin with 450 colonies, and harvested 23,000 pounds of clover honey, the season being poor.

August 26, which he says was a month too late, he loaded 225 colonies on a car and shipped them to Illinois on the Illinois river bottom, and Oct. 4 and 5 extracted 3500 pounds of Spanish-needle honey.

Then the bees made their hives heavy with aster honey, and Oct. 24 they were railroaded to Louisiana for the winter.

Mr. Ahlers sums up his year's work thus:

> "This is the story of my trip with a carload of bees. Moving 3 times in one season; securing 32,500 pounds of honey, and leaving the bees in the best place, in a perfect condition. No winter chances. No fall, and practically no spring work."

Editor Hutchinson makes this summing-up in his heading: "Making $4000 from Successful Migratory Bee-Keeping."

Beginner Should Have Bee-Book

It has been said repeatedly in these columns that one of the first needs of a beginner is a good bee-book, and if he can not have both a book and a bee-paper, let the paper and not the book be the one to wait for. But he really needs *both*, and there may be some question whether he better not let bees alone till he can get both. But if one *must* come first, let it be the book. The editor of the Bee-Keepers' Review wisely says:

> My idea of this matter has always been that all beginners ought first to read one or more text-books. That is what text-books are for—to state fundamental principles and well-established facts. To me, it has always seemed like an injustice to the majority of subscribers, and a great waste of space, to publish year after year, in a journal, those things that can be found in almost every text-book. The journals are for the discussion of *new* things.

In a good school there will be a text-book and a living teacher. The student may spend the most of his time with his book, but he needs the teacher, as well, to explain the things that are not entirely clear to him in the book. It is much the same way with the student in bee-keeping. He needs a text-book, and he would be the better for a living teacher. Lacking that, the next best thing is a question and answer department in a bee-paper, as a sort of correspondence school, in which all his questions may be answered. To be sure, that is the only one of the things a bee-paper is for; but the point here urged is that if the beginner is to have full benefit from the question and answer department, the first thing he should do is to have the book.

Extracted vs. Comb Honey

There is a good deal said nowadays of the increase of interest in extracted honey at the expense of comb. Indeed this is sometimes put so strong that one writer in a German bee-paper summed up the matter by saying:

> "In America the price of comb honey is falling, and that of extracted is rising. Already 30 cents is paid for extracted, while comb brings only 25."

This sounds a bit amusing to those who are familiar with market quotations, but is no doubt in accord with the desires of many. In the face of all this, M. A. Gill has the audacity to stand up in defense of the production of comb honey, in an article in the Bee-Keepers' Review. He believes in comb honey, not only for the higher price it brings, but because he can "keep more bees," and lays this chip on his shoulder:

> "I can handle more bees, with 2 helpers, when working for comb honey, than I can for extracted."

When a man who has been so successful as M. A. Gill has been, talks in that way, it raises the question whether, after all, it takes so much less work for extracted honey than for comb honey. But, then, every bee-keeper is not a Gill.

A Hint for Wiring Frames

With the usual method of horizontal wiring there is likely to be trouble with the wire cutting into the wood. A correspondent of the Canadian Bee Journal avoids this by the use of a glass bead in each wire hole, the hole being countersunk with a punch to admit and hold the bead.

Brushing Wax On Foundation

From H. Voegler, of California, have been received samples of foundation reinforced by the patented plan of brushing wax upon the upper part of it. Some who have tried it speak highly of the plan. Mr. Voegler says:

> "I use extra-thin Langstroth frame size. It gives me over 14 sheets to the pound instead of 9½ to 10, or a gain of about 2-7. Bees get on much faster in building their combs."

Reproduction, Hatching, and Swarming

Editor White says in the Canadian Bee Journal:

> The swarming instinct is the natural instinct of reproduction and perpetuation of the species. It is only when queens are hatched and a swarm issues that real and complete reproduction takes place in the case of the honey-bee. Is not W. G. Flower mistaken when he states that the natural instinct to reproduce by sitting has been bred out of the Leghorn and other breeds of hens? On the contrary, the modern Leghorn is capable of more rapid reproduction than formerly. The duty of sitting on and fostering the eggs does not constitute the act of reproduction.

That reminds one of the question of long, long ago: "Is the hen that lays the egg, or the hen that hatches it, the mother of the chick? Without in the least insisting that a non-sitting hen is any proof of a non-swarming bee, it might not be entirely out of place to ask Mr. White to tote fair. In the case of hens, laying eggs constitutes reproduction, but in the case of bees it does not. Why not, Mr. White?

Black Roofing-Paper for Hives

Objection has been made to dark winter covering for hives, because it excites the bees unduly when warmed up by the hot sun. It seems that Allen Latham, as he reports in Worcester (Mass.) Telegram, does not agree in this objection. For several years he has been using hives that are covered with black roofing-paper, which seems to be part and parcel of the regular walls of the hive, remaining permanently summer and winter. He is well satisfied with these hives, and says:

> The warmth of the sunshine raises the black covering to a rather high temperature. This warmth penetrates the hive and warms the air of the same. This air takes up moisture and expands as it warms, carries much moisture from the hive. (As night comes on dry air enters the hive as cooling progresses.) We have, therefore, a day and night exchange of air between the interior of the hive and the outside. The result is that the combs and the bees retain a healthful and healthy condition. More than that, the warmth stirs up the bees so that they move their dead out and move their stores into the empty cells within the cluster. They do not fly much for they do not need flight. The more sunshine that enters the hive the better, for it kills mold and unwholesome conditions. In spring bees come out vigorous and ready to build up rapidly. The method is so far ahead of any other ever advanced, that it is a matter of amazement to those who use the method that others are so slow to catch on.

Tarred Felt as Winter Protection

Aaron Snyder says in the Bee-Keepers' Review:

> "Two years ago we wrapped 130 colonies in the fall with tarred paper after covering them with 8 or 10 thicknesses of common newspapers, and left them out on the summer stands all winter. Almost one-half died, and the others were weak. I believe they were covered too tight, were too warm—'twas too much of a good thing."

Editor Hutchinson favors the use of tarred felt in the spring if used with sawdust. He says:

> "The tarred felt cost about 5 cents per colony. I have no use for tarred felt as a *winter* protection. The reports of success with this material have been very few—the failures many. Failures have also been reported when used *alone* as spring protection. The reason given is that the black color absorbs the heat of the sun's rays, warming up the hive sufficiently to cause the bees to fly in unsuitable weather. In using paper *alone* for spring protection, I would use a light colored building paper. By using 2 or 3 inches of sawdust between the outer covering and the hive, the heat was *modified*. Perhaps it was *hours* before the packing was warmed through, and probably as many more hours before it cooled off after the sun was gone. The great object of the protection was to retain the internal heat.

Shipping Bees South for Winter

Migratory bee-keeping has been practiced for many years, more in Europe than in this country. The bees moved temporarily to a different locality, in order to take advantage of the better pasturage there. To go south merely for the sake of spending the winter in a warmer climate is, however, something quite different, and something new. But here it is, as may be learned from the following clipping from the Los Angeles Examiner:

> SAN BERNARDINO, Dec. 15.—Three carloads of honey-bees arrived in this city yesterday from Utah. They are the property of M. E. Miller, Thos. Chantry, and George Hale, Utah bee-men, and they will winter in the vicinity of Colton and Highgrove. The bees are unable to survive the cold Utah winters. Next spring they will be taken north.

One is somewhat inclined to inquire whether there may be no mistake in the case. Is Utah so much colder than its next neighbor, Colorado? And no matter how cold, would it not be cheaper to provide proper winter repositories than to bear the expense of transportation both ways? Can any of our Utah or California friends enlighten us!

Economy, or Waste, of Space?

In some of our contemporaries it is the custom to give answers to questions upon bee-keeping without printing the questions. The object, no doubt, is economy of space, the thought being that it is only necessary to give the information without repeating the question that called for the information. Take, for example, the following set of answers from that excellent publication, the British Bee Journal:

> CLOVER BANK (Devon).—*Various Queries.*—1. The wall will be no obstacle to the returning bees. 2. The last week in April. 3. This is the result of the bees giving more attention to the smaller number of larvæ. 4. A little of the honey should be left uncapped as a stand-by should weather become adverse. 5. We should say not.

"Clover Bank" will no doubt get some information of some value—perhaps of great value—*provided* he has kept a copy of his questions. But what information will any one else get from the answers? It is simply a waste of space. Either the questions should be given or their substance embodied in the answers.

MISCELLANEOUS NEWS ITEMS

Canada vs. California.—W. J. Brown, after evidently having tried both places, prefers Ontario to California as a bee-country. In Ontario, he says in the Canadian Bee Journal, a fair crop may be had 9 years out of 10, whereas in California you can not rely on more than 2 good crops in every 10 years, with a possible chance of getting a small crop every 2 or 3 years. Prices are better in the North, and the bee-moth is less troublesome.

A Joke on Editor Root.—At the Indiana State convention Editor E. R. Root, knowing that reporters were present, took occasion to speak very strongly on the subject of manufactured comb honey. As expected, this was reported in the papers, correctly in two, but the Indianapolis Sun has a reporter who must be a veritable genius at misreporting, and this is what appeared;

> "Mr. Root condemned the manufacture of honey. He said he believed most of the comb honey is manufactured and not produced by the bee."

Just imagine the sedate and scrupulous editor of Gleanings when he read that report!

Bee-Keeping in Indiana.—Under this title, George S. Demuth, Chief of the Division of Apiary Inspection, occupies 32 pages of the third annual report of the State Entomologist of Indiana. If this be generally distributed throughout the State, it will do good.

In the year 1910, 5733 colonies were inspected, and of these 402 were affected with American foul brood, and 358 with European foul brood. Percentage of colonies found diseased, 13.1. In 1909, 6036 colonies were inspected, 1431 of which were diseased, or 23.7 percent. That falling off from 23.7 to 13.1 is a very gratifying proof of the good effect of the work done.

Inspector Demuth is very emphatic in urging the importance of keeping all colonies strong. Instead of favoring the idea of trying to have colonies strong for the harvest and restricting brood-rearing at other times, he says:

> "But somehow a strong colony seems to be better able to make a living between flows than one of medium strength, and probably consumes less honey per bee during the winter than medium or weak colonies."

Vigorous expression of his view is given in the following sentence:

> "In most of the apiaries visited in Indiana during the past two seasons it would have been better for both bees and bee-keeper if all of the bees had been in half the number of hives."

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Moving an Apiary on Hand-Sleds.—J. L. Byer reports in Gleanings the successful moving of some 80 colonies of bees about 100 yards on hand-sleds on the snow. The work was so quietly done that the bees hardly knew they were being moved. A few colonies were a bit uneasy, but at the first sign of a bee at the entrance a handful of snow thrown in stopped all trouble.

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Death of Mrs. E. S. Miles.—The life companion of Mr. E. S. Miles, a bee-keeper for many years, residing at Dunlap, Iowa, passed away March 16, 1911, leaving 6 children between the ages of 2 years and 19, besides Mr. Miles, to mourn her departure. Surely the bereaved husband and children will have the sympathy of all our readers. Mr. Miles is now writing some articles on "Improvement of the Honey-Bee," the first of which appeared in our March number.

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Our Denmark Bee-Friends.—This office is in receipt of a publication that has been examined with no little interest, albeit it is printed in a language which is beyond the ability of any one of the office force. It bears the title, "Tidsskrift for Biavl," with the further addition, "Den danske Biavls Tidende." Internal evidence makes it safe to say that it is a bee-paper published at Roskilde, in Denmark, and that it was established in 1866. That shows that our Danish contemporary first saw the light only 5 years after the birth of the American Bee Journal. Its typograhpical appearance does credit to its publishers.

One article has for its caption "Doolittle on de italienske Bien." Evidently our Danish friends are informed as to leaders in bee-culture of this country. Pictures read the same in all languages, so it is not difficult to read the picture on the first page, even if the name "George W. York" were not printed in plain English. Other English names, together with figures occurring on the page, show that it is a biographical sketch. Although hidden beneath the veil of an unknown language, there is something that has a very kindly look in the closing paragraph. That kind feeling is fully reciprocated, and that last paragraph is here given that our readers who hail from that land across the sea may have the benefit of it:

> Vi onsker, at York maa leve længe, og at det vedblivende maa lykkes ham at foroge American Bee Journals Holderantal til Gavn for Biavlssagen i hans Fodeland.

That's all right. Thank you.

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An Austrian Bee-Medal.—The illustrations herewith show the front and back of a medal won by Mr. Chas. Schroll, for exhibiting the finest comb foundation, the best comb honey, and a large bowl containing comb honey in the shape of a star; also for showing an improved hive, at the exhibit held by the Austrian Bee-Keepers' Association of Asch, Bohemia, in 1885.

Mr. Scholl has lived in Chicago for 20 years. He had 75 colonies in Austria. The lettering on the medal reads thus: "Austrian Association of Bee-Keepers."

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Bees and Honey in Illinois.—We are indebted to J. K. Dickirson, Secretary, for the Statistical Report of the Illinois State Board of Agriculture for 1910. In this the colonies of bees in the State are given at 80,544. They produced 341,621 pounds of honey which sold at an average price of 17 cents a pound, making a total of $56,621. (There seems to be something wrong with these figures, as 341,621 pounds at 17 cents figures up $58,075.) This is a little more than the value of the apple crop. In 5 counties of the State the price o honey was 25 cents a pound. From that the price ranges down to 8 cents, the price in Fayette county.

Hamilton, one of the southernmost counties, stands out conspicuously with 28,079 colonies. Next to this comes Livingston county, with 1,925 colonies. Brown county has only 20 colonies.

It is to be feared that the system of collecting these statistics is not very reliable, notwithstanding all the pains taken by Secretary Dickirson. The honey crop of McHenry county, for example, is reported at 134 pounds, while it is certain that one bee-keeper alone in that county produced more than 50 times that amount.

If 80,544 is anywhere near the correct number of colonies in the State, there does not seem to be any overstocking, as there are less than 1½ colonies to the square mile.

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Bee-Talk to School Children.—Miss Hill, principal of one of the public schools of Indianapolis, Ind., accompanied 38 boys and girls about 15 years of age to the bee-supply and honey establishment of Walter S. Pouder, at Indianapolis, March 16th, to listen to a talk about bees. Of course, Mr. Pouder did his best, and before he knew it he had talked for two hours, and then the children came to him with written questions, which made it all the more interesting. He never saw so much enthusiasm in a lot of little faces before, and, of course, it was enjoyed all around. He showed them the different apiarian fixtures, and gave to each little visitor a strip of comb foundation and a sample jar of honey, as souvenirs, and when they went out each shook hands with Mr. Pouder, who says he felt for once in his life as if he were President of the United States! During the entertainment, who should come in but Mr. Fred W. Muth, one of the big honey and bee-supply merchants of Cincinnati, who also seemed to enjoy the interesting occasion.

The above experience would be a good thing to duplicate all over the country, wherever it is possible. It would also no doubt help increase the consumption of honey, for likely the children would all agree that the sample "tasted like more," and would induce their parents to continue its use.

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British Columbia Bee-Bulletin.—"Guide to Bee-Keeping in British Columbia" is the title of Bulletin No. 30, printed by the authority of the Legislative Assembly of British Columbia. The author is none other than our old friend, F. Dundas Todd, and he has good reason to be proud of his job. The bulletin is written in the usual happy style of the author, and the title is appropriate. It contains 48 pages of fine print, with 24 illustrations.

Quite a number keep bees on a small scale in British Columbia, but no one is reported as having more than 50 colonies. "There is seemingly one keeper of bees to every 20 people," with a possible average of 11 colonies each. The bees are Italian, with a few blacks. The Langstroth hive is practically the only one in use, the 8-frame and 10-frame being in equal favor. Extracted honey is considered more profitable than comb. The author figures that the producer sells to the grocer at the rate of 23 cents a pound for honey in sections, at the rate of 19.7 cents a pound for the honey in half-pint jars, 18.5 cents for that in quart jars, and 17 cents a pound in 2-quart jars.

Bees are generally wintered on the summer stands. Victoria, where Mr. Todd lives, is nearly 500 miles farther north than Chicago, but the season seems to open earlier there, likely because of the nearness of the Pacific Ocean. The following dates are given: Feb. 21, willow; pollen carried in. March 17, much willow; a few dandelions. April 18, early plums, apples. Later on there is not the same difference, white clover blooming about June 1. The strange thing is that although "clover and snowberry bloom round about Victoria about June 1, it is not until about the 20th of the month that the bees begin to get surplus honey." In the region of Chicago, instead of 19 days, it is about 10 days from the time of the first clover bloom until bees get surplus honey from clover.

On page 35 occurs this sentence: "A honey-comb is about 1 inch in thickness in ordinary conditions, with a space of ⅜ inch between each pair." Just what can our author, usually so exact, mean by that? If the pair of combs contain worker-brood, will not the intervening space be more than ⅜, and if they contain honey will it not be less than ⅜ inch?

National Convention at Minneapolis.—It has been decided that the 1911 meeting of the National Bee-Keepers' Association will be held in the Court House at Minneapolis, Minn., Wednesday and Thursday, Aug. 30th and 31st. The invitations from several other enterprising cities were duly considered, but it was thought best under the circumstances to go to Minneapolis this year. The National has never met in that part of the country, and also for a number of other good reasons the Executive Committee decided to hold the meeting there this year.

Notice to Illinois Bee-Keepers.—Bee-Keepers of Illinois having foul brood in their apiaries, or having reasons to believe it exists in their neighborhood, should write the State Inspector, who will be glad to come and assist you. Write him so that he may plan his trips in order to make traveling expenses as light as possible. A. L. Kildow,
Putnam, Ill. *State Bee-Inspector.*

Eastern Illinois Convention.—It was our pleasure to attend the second day of the last meeting of the Eastern Illinois Bee-Keepers' Association, held at St. Anne, Ill., March 1 and 2, 1911. There were about 40 bee-keepers present during the two days, and a splendid meeting resulted. Mr. C. P. Dadant, President of the Illinois State Bee-Keepers' Associaton, was also present.

The following were elected as officers for the ensuing year: President, Jesse H. Roberts, of Watseka; vice-president, H. Whitmore, of Momence; secretary, A. J. Pallissard, of St. Anne; and treasurer, H. S. Duby, of St. Anne.

Mr. Duby has been "the power behind the throne" in organizing the Eastern Illinois Bee-Keepers' Association, and keeping it going. He always sees to making the necessary arrangements and provides for the entertainment, etc., of those attending. Mr. Duby is not only a bee-keeper and poultry fancier, but also a dealer in bee-keepers' supplies, as will be noticed from his advertisement from time to time in the American Bee Journal.

One of the most important actions taken at this convention was the unanimous passage of resolutions endorsing the foul brood bills in the Illinois State Legislature. It would be a good thing if more of such local conventions of bee-keepers could be held, not only in Illinois but in other parts of the country as well. The personal meeting of those engaged in the same line of work is always interesting, and can not help being mutually profitable. It is hoped that another year there may be an even larger attendance of bee-keepers from the eastern part of Illinois.

Vice-President Wright Married.—Recently we received a newspaper with the following paragraph marked:

> MARRIED IN NEW YORK.
>
> ALTAMONT, March 4.—Announcement has been made in this village of the marriage on Feb. 22 at St. Peter's Lutheran parsonage, New York city, of Wheeler D. Wright, of this village, and Mrs. Carrie Barton, of Knox. The Rev. A. B. Moldenke, the pastor, performed the ceremony. Mr. and Mrs. Wright will live in this village.

Mr. W. D. Wright is vice-president of the National Bee-Keepers' Association. Our heartiest congratulations are tendered to Mr. and Mrs. Wright, in which all bee-keepers will unite. While it was no doubt quite right to be Mrs. Barton heretofore, she will just be "all Wright" now.

Home of the "Falcon" Bee-Supplies.—The two views presented herewith show entirely different portions of the factory of the W. T. Falconer Mfg. Co., at Falconer, N. Y. At the left side of Fig. 1 will be seen projected the end of the long building shown in Fig. 2. The small 2-story building at the left in Fig. 2 is not a part of the large building in No. 1, but is a building used as a tin-shop adjoining a row of dry-kilns.

Mr. W. T. Falconer.

Somewhat more than 30 years ago Mr. W. T. Falconer began making bee-hives in a building, the top of which is shown at the extreme right of picture No. 2. More than half of this building is below the surface of the ground, as it was formerly used as a sawmill. The latter portion of the building has a storage capacity of 3,000,000 sections.

From this humble beginning a portion of the factory in No. 2 was added, then another part, and yet a third addition. Finally the roof was raised to the third story.

At the right of picture No. 2 there are two more store-houses. Just at the left of the old original sawmill will be seen a small 2-story building. The beeswax and comb foundation department occupies this entire building, the output of which to date (March 15) this year is just double that of last year. About two-thirds of the building in picture No. 1 was built the fall of 1907 and in 1909 another addition was put on being about one-third of the structure. The same year a store-house with a 40-carload capacity was put up just across the street. This does not show, neither does the office-building which is between the two main buildings; likewise the stables and lumber yards which are not in view.

Mr. and Mrs. Leslie Martin.

By looking carefully it will be seen that there are cars located on a private siding; immediately back of the cars is a loading platform, and all orders, either carload or local, are loaded directly into these cars. This saves much rough handling, to which the goods would be otherwise subjected.

The business, from the manufacture of a limited number of hives for different near-by bee-keepers has grown from year to year without any special advertising, the sales having been made from the reputation of the excellent quality of the goods, until the house of Falconer is now furnishing bee-supplies to every part of the globe.

In order to take care of their ever-increasing trade more adequately, they are constantly installing additional improved automatic machinery; for instance, their equipment in the wax department was doubled, and this year they have made additional changes and improvements which places them in a position to turn out a product equal to any manufactured in this country.

In addition to furnishing bee-supplies from many convenient points in this

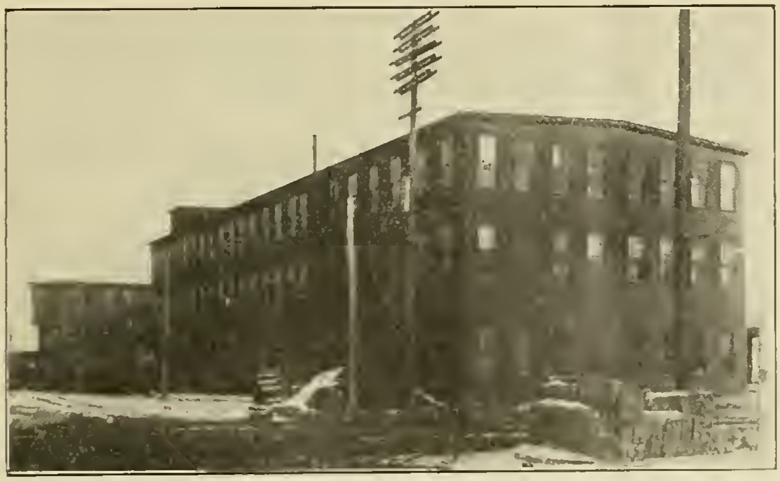

FIG. 1.—FACTORY OF W. T. FALCONER MFG. CO., FALCONER, N. Y.

country, they have representatives in Havana and Santiago, Cuba; Jamaica, Santo Domingo, Mexico, Hawaiian Islands, British Isles, Germany, Turkey, Australia, New Zealand, and South Africa. Besides, they also supply in varying quantities to many other countries.

It is surprising how bee-keeping has developed all over the globe during the past 25 or 30 years. The W. T. Falconer Mfg. Co. are one of the three largest manufacturers of bee-supplies in the world. It is fortunate that bee-keepers everywhere can so easily and satisfactorily procure the kinds of supplies they require in the profitable conduct of their apiary, and can also have them of such excellent material and fine workmanship.

As as been announced in the advertisting columns of the bee-papers during the past few months, the Falconer Co. have established headquarters for their goods in the West, notably Chicago and Kansas City. This will give bee-keepers in the great Western territory an opportunity to become acquainted with the kind of goods the Falconer Mfg. Co. have been turning out for years, but whose trade heretofore has been principally in the East.

Mr. W. T. Falconer needs no introduction to the bee-keepers of America or the world, for both his name and the product of his factory have been before them for over 30 years. His purpose is always to furnish uniformly excellent goods, and conduct a business along the line of honorable and square dealing, guaranteeing satisfaction at every point and to all patrons.

Mr. Leslie Martin is the progressive manager of the entire Falconer works. Mrs. Martin has charge of the bookkeeping department and general office details. In their hands, and with the hearty co-operation extended throughout all departments of the factory, the business of the W. T. Falconer Mfg. Co., in all its various lines is developing with remarkable progress, and with satisfaction to all concerned. The American Bee Journal is always pleased to find among its advertisers firms whose highest endeavor is to deal honorably and satisfactorily with their customers. The W. T. Falconer Mfg. Co. is easily in this class.

Co-operation Among Bee-Keepers.—This seems to be a live topic among Canadian bee-keepers. The editor of the Canadian Bee Journal makes a good point as follows:

> The fruit-growers and apple-growers of Norfolk county got the inspiration from a man of some brains and some organizing capacity. He got them together and pointed out to them they were at the mercy of the man who came along and offered them so much a barrel for their apples. The fruit-growers in those days were only getting one dollar a barrel. Today as the result of organized efforts on the part of the Norfolk apple-growers, they are handling their own apples; they are putting them on the market themselves; they have built a large building in which to store them; the apples are brought in by different farmers or fruit-growers; every barrel is labeled with his name or initials; it is put in storage and it is sold by one appointed for that purpose. The result is they are getting from 400 to 500 percent more for their apples than formerly—they are getting from $5 to $6 a barrel. They have proved the success of co-operation. It seems to me the same can be done by the honey-producers of Ontario.

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Two Wonderful Photographs.—Mr. F. Dundas Todd, 743 Market St., Victoria, B. C., has sent us copies of the two wonderful long-distance photographs of mountains mentioned in his advertisement on another page. One of the pictures was taken 95 miles away, which exceeds all previous records by 30 miles. This picture is of Mt. Baker, in the State of Washington. It is 11,100 feet high. The other picture is of the Olympic Mountains, taken 65 miles away. Both pictures are most beautiful, and would be nice for framing. They are mounted on cards 8 by 10 inches, so that when framed they will be very fine for hanging on the wall. The price is $1.50 each, but both will be mailed for $2.00. To any one who appreciates the artistic these pictures would be highly prized. Mr. Todd, a few years ago, lived in Chicago, but has since removed to Victoria, B. C., where he is interested in bee-keeping as well as some other lines of work.

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Eastern New York Convention.—The Eastern New York Bee-Keepers' Association will hold its 4th semi-annual convention in the City Hall at Albany, N. Y., Thursday, April 20, 1911. The sessions will be held at 10:30 a.m. and 1:30 p.m. Dr. Burton M. Gates, of the Massachusetts Agricultural College, is expected to deliver an address. N. D. West will give a talk on "Foul Brood," and also one on "What to Do and What Not to Do." Alden Hilton will treat the subject, "Some Mistakes Made by Some Bee-Keepers." Henry Lansing will speak on "Retailing the Honey Crop." He will also exhibit and demonstrate the hive he uses. An urgent invitation is extended to all to attend who possibly can do so. A profitable time is anticipated.

S. DAVENPORT, *Sec.*
Indian Fields, N. Y.

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Connecticut Convention.—The annual meeting of the Connecticut Bee-Keepers' Association for the election of officers, etc., will be held in the Y. M. C. A. building at Hartford, Friday, April 14. Doors open at 9 a.m. Formal meeting at 10:30. Begin the season right by attending this meeting! Let it be an old-time, red-hot rally! Three cheers for the hustling bees!

JAMES A. SMITH, *Sec.*
Hartford, Conn.

◆

Northern Michigan Convention.—This convention was held at Traverse City, Mich., March 15 and 16, 1911. The officers elected for the coming year are as follows:

President, C. F. Smith, of Cheboygan; vice-president, S. D. Chapman, of Mancelona; secretary-treasurer, Ira D. Bartlett, of East Jordan, Mich.

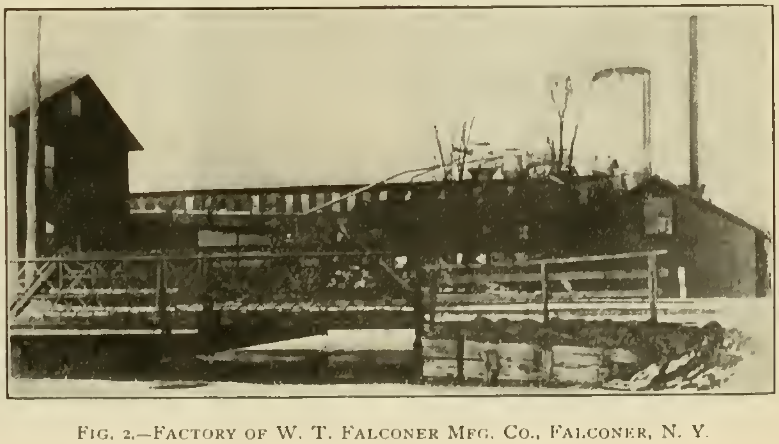


FIG. 2.—FACTORY OF W. T. FALCONER MFG. CO., FALCONER, N. Y.

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Locating Bees on Farms

"I want to place a few colonies of bees out in the country the coming season, and would like to know what are the customary terms for placing them with farmers, or what you have to pay farmers for leaving the bees on their farms."—A Correspondent.

There is perhaps no regular custom about it. Some farmers, or their wives, are so afraid of bees that a very high rent would not induce them to allow bees on the place. Others again have such a lively appreciation of the good bees do in the way of fertilizing blossoms that they would pay for the presence of the bees.

First and last, we have had bees on 5 different farms, and in neither case was there ever any agreement that anything should be paid by way of rent. We always, however, were somewhat liberal in leaving the messes of honey with the farmers, so that probably they thought they did not have the worst of the bargain. Aside from honey in regular shape, we sometimes had what we called "crooked honey," that is, a nice piece of white comb honey, but built in some place where we did not want it, and when it was cut out it would be rather dauby to carry home, and so the easiest thing was to carry it into the farm kitchen. If you are on good terms with your farmer acquaintances, you will probably have little trouble in locating your bees. Of course, if you should want them to do anything with the bees, as watching for swarms, or hiving them, some definite arrangement should be agreed upon, such as giving them a certain proportion of the swarms hived.

* * *

Combs Disinfected With Carbon-Disulfide

How long after disinfecting with carbon-disulfide will it be wise to use for the bees? I have a goodly number of combs, and some I shall want right away, and others along until the fall. (Mrs.) M. E. Pruitt.

Eola, Tex.

No positive information on this point is available. But it is safe to guess that it will be all right to give such combs to the bees as soon as they will accept them; in other words, just as soon as the odor has left the combs so the bees will be willing to cluster on them. When carbon disulfide was used here, the combs were opened up not sooner than in 24 hours, and likely in another 24 hours they would be aired sufficiently to give to the bees.

* * *

The Manufactured-Comb-Honey Lie

A neighbor of mine—a gentleman who has cared for bees for years—attended the Ontario, Canada, Fair this year, and when he came home he had wonderful stories to tell about what he saw. One was that there was an immense exhibit of comb honey (acres of it), and as he gasped, open-mouthed, in wonder, the man who was caring for the exhibit took down a section of comb honey and said, "Look at that," which my neighbor did very carefully. The man said, "We manufacture that; no bee ever saw that honey." It was a section of No. 1 white honey. Now, it *looked* like a section of honey gathered by the bees, and not made by man. *I* should have said to the man, "If I do look green, and have hayseed in my hair, I do not think man can make a perfect section of honey." But you know a man believes anything told him, as women have learned so well, so I write to the editor to learn if she thinks a section of honey can be manufactured. Ima.

Geauga Co., Ohio.

Did you never hear of "the Wiley lie?" Quite a number of years ago, Dr. H. W. Wiley, the United States Government chemist—the man who has been so active in pushing the federal pure-food law, and who was lately married—said that there was adulteration in almost everything, even in comb honey; that artificial comb was made and filled with glucose and sealed over with a hot iron so as to look just like the genuine article. That raised a storm of protest from bee-keepers, but for a long time Dr. Wiley was dumb as an oyster. Finally he broke silence, and said it was "a scientific pleasantry." However much of a pleasantry it was on his part, it was not a pleasant thing for bee-keepers, and no doubt injured the sale of honey to the amount of thousands of dollars. Several times the story has gone the rounds of the papers, dying out after a time, and then after resting a while starting up again as fresh as ever.

To help squelch the lie, a standing offer of $1000 was made for a single pound of comb honey produced without the intervention of the bees, and this offer was afterward duplicated by the National Bee-Keepers' Association. No one has ever secured the reward.

It has been a very common thing to have it repeated that comb honey was thus counterfeited, but this is perhaps the first instance where any one claimed to be the counterfeiter.

FAR WESTERN BEE-KEEPING

Conducted by Wesley Foster, Boulder, Colo.

Co-operation and Progress Among Bee-Keepers

Why is it that Russia is more conservative than France or England? why is it that England is more tied to the past than New England? and why is that New England is slower to move forward than Illinois? and, last, why is it that the Rocky Mountain States, from Colorado to the Pacific, are so much quicker in adopting new ideas and novel methods than any of the more conservative sections of the country? It is simply that the most energetic and progressive individuals will not be bound down by the slower ways of the older communities; and so they move West. There are many exceptions to this idea I have expressed, but in the main it is correct. We have mossbacks here as well as elsewhere, but they do not dominate the thought of the community the way they do in older and more staid communities. There are progressive folks who put us to shame, scattered all through the East, and in the Old Country, but I think the main proposition will hold.

Perhaps I should say that I think there are some merits in conservatism; it keeps things running more steadily, and there is not likely to be so much ferment. I suppose the conservatives live just as happily as the progressives.

Now, we have some exceptions to this rule, for in England the co-operative associations of workers own stores worth millions of dollars. The Co-operative stores of England are organized on a much larger scale than anything in America, though the co-operative associations of farmers and fruit-growers in the West are doing million of dollars worth of business every year. Co-operation comes about through necessity. The growers here in the West are so far from market that the freight on their fruit in many cases amounts to more than the Eastern fruit-growers, but a few miles from market, get for their product. I have bought a 3-bushel barrel of New York Baldwin apples for $1.75, when the freight on 3 bushel boxes of Pacific Coast apples would amount to more than that to New York City. How is the Western fruit-grower going to compete in these markets? He can do it by putting out an apple that is absolutely perfect, and having apples all of one size in a box.

The same condition exists with the Western bee-keeper. If he is going to make a success he has to put out a better-produced and better-graded article than is generally found on the Eastern and Middle Western market. Where enough bee-men can get together and form an association, and hire the services of a manager who will devote all his time to studying the requirements of every honey-market in the country, so that he will know just the places where the honey will bring the best price, success will follow.

Most of the fruit-growers associations handle honey in the same way they do fruit, and it is but natural that the same business methods governing their selling of fruit will be applied to honey. There is not so much care taken with the grading of honey in these instances, for honey is a sort of side-issue with them, and unless they have a man who is thoroughly versed in the methods of grading honey, the product may be put on the market in poor shape. What the coming association of bee-keepers will need is a man who will go around and inspect the methods of production while the honey is on the hives or being put there by the bees. In grading it will be almost necessary to have all the honey graded and packed by men who have passed a strict examination before the directors of the association; and then every grader's number will have to be stamped on the box, so that any errors can be easily traced back.

The State of Washington has a law

prohibiting the shipping of wormy or cull fruit, and other Western States will soon have the same. We shall have to have the same thing in regard to honey; it is coming just as surely as anything. When cull fruit is shipped to a distant market, the loss from rotting is very great, and comb honey insecurely fastened to the wood breaks out in shipment, and poorly finished combs are handled over so much that often the last few combs in a case are discarded by the grocer. This is not honest, and it is not good business, and we as bee-keepers owe it to ourselves to improve our methods so that cull honey will be almost a negligible quantity in our yards.

We do not need to feel, as many do, when better equipment is urged and better grading insisted on, that it is money being taken out of our pockets. It is possible that the initial expense may be a little more, but the cumulative effect of putting an absolutely honest and intelligently produced crop of honey on the market, year after year, is going to boost the price beyond what most of us think is a top price.

I am going to tell of a little incident showing how the public appreciate special efforts to make progress in the industry. The Colorado Honey-Producers' Association was making an exhibit at the Inter-State Fair, in Denver, and Mr. Frank Rauchfuss, the manager, was spending part of the time caring for the exhibit A gentleman who had been admiring the display of comb and bottled honey asked if he could not purchase some, and when told that he could, said he would like 3 sections of that fine white honey. Now, Mr. Rauchfuss was going to charge him about 20 cents apiece for them, but our friend handed him a dollar (!) and said he thought the honey was well worth that, and that he was glad to know there were bee-keepers who were raising the standard of their product to such a high level.

Human nature is slow to adopt new ways. We ought to maintain a different attitude toward things. Some of us are always "agin things." I hardly think I could do better than append the following from The Rural New Yorker which gives the fruit situation in a very good way; we can apply all the points to the production and grading of comb honey:

"The Cull in the Package"

It is the rotten apple in the box, the painted knothole in the board, the musty streak in the butter or bacon which will decide the price of the second package of food you try to sell a private customer. Most people will forget to praise the good specimens if they think you are trying to deceive them with a cull. Most of us have heard of the fine packing of the Pacific Coast fruit. Interested in this matter, we wrote the firm of Steinhardt & Kelley, who for some years have handled apples from the farmers of the Hood River region. Their answer follows, and it is worth the attention of any fruit-grower.—Rural New Yorker.

First you would like to know if the packing of the Hood River apples is so perfect that we accept them without close investigation. Not only do we accept them without any investigation, but we accept them without any investigation whatever, leaving the entire matter up to the Hood River Apple Growers' Union, a body of men with about 9 directors under whose personal supervision all the fruit is packed and shipped to market. Our dealings with these men for the last 3 years, during which time we have purchased their crop, have always been of such a straight and upright character that we have never had occasion or cause to doubt their packing, and we have never been disappointeed in our business dealings with them.

Our contract with the Hood River Apple Growers' Union, as represented by their board of directors, is certainly a very stringent one, they guaranteeing us a perfect pack, and also guaranteeing that every apple in every box is absolutely perfect. We have handled several hundred thousand boxes, and never have we found ourselves in condition to make a single complaint against their pack. It is as near perfect as human ingenuity and honesty of endeavor can make it; in fact, we shall be glad to have you drop in our place of business at any time and take a box of fruit from any heap, and you will find that every box is practical identical, and that every apple is absolutely perfect, whether you open the top, bottom or side of any package. This is more than we have been able to say for any large pack of fruit that we have ever contracted for.

Referring to your second question. The very best fruit from the Hood River country is purchased by us on f. o. b. basis, Hood River, and although of course the prices are not exactly public property, still we may tell you that they average somewhere around $2.25 a box there. Of course you understand that a box of fruit will cost us a great deal more, as the freight from Hood River to New York is on an average of 60 cents a box. Regarding your question whether it were possible for a number of individuals who are not connected with this association to do business on the same plan as that of the Association, suffice it to say that if you can get a number of honest men who are also good business men together, they could do just as well as the Hood River Apple Growers' Union.

Regarding your endeavor to encourage Eastern fruit-growers to put up a package as good as that of the West, suffice it to say that this could be done just as well in the East as in the West if you can get enough (as we stated before), honest men who will pack honestly. The whole thing in a nutshell is simply and purely a business proposition. You no doubt know that the Eastern barrel pack, to say the least, leaves a great deal to be desired.. You know that there are usually three or four good tiers on top and the rest is a lot of inferior goods. This is the reason why the public is now turning toward the box apple to take the place of the barrel, and it is the writer's personal opinion that it will be only a few years when the barrel apple will be practically out of the use for the better class of trade, owing to no other reason than dishonest methods employed in packing.

The entire matter is simply one of honesty and quality. Fruit can be had just as good in the East as in the West, and we see no reason why the Eastern grower can't get just as much for his goods as the Western grower, if he will only make up his mind to one absolute fact, and that is, that he has to be honest; and that if he thinks he can fool the people all the time by putting up a fake barrel of apples he is making a big mistake.

Steinhardt & Kelley.

Wesley Foster's Concrete Honey-House.

A Good Concrete Honey-House

We have used sheds, frame buildings, and rooms in the house for the honey-work, such as scraping and casing comb honey, and putting up sections and filling supers. As we produce scarcely any extracted honey there is not quite so much stickiness around, though there is enough. We had long been disgusted with the way propolis and wax has of sticking to the floor and also to the shoes, requiring that the shoes be scraped with a knife each time one leaves the honey-room or shop for the house.

We thought that propolis would not stick so tightly to cement as to a wood floor, and so we decided that our new shop should have a cement floor; we have not been disappointed in the results, for though it sticks to the feet as badly as ever, it sticks but little to the floor—practically all of it being swept out with the broom. And so we do not get so much of it on our feet, for the floor can be so much more easily cleaned, and it gets the cleaning oftener.

When we were ready to begin work on the shop my father bought a pile of brick-bats at a local brickyard, not a half mile distant, for $5.00. This pile of brick-bats laid up almost all of the two-course wall. For sand, all we had to do was to dig a hole 2 feet deep through the soil, and we came to the very finest of sand which supplied us an abundance for the whole building. We plastered the walls on the inside, and applied cement plaster, rough finish, to the outside, covering the roof with corrugated iron. As can be seen there is a chimney and flue at each end so that—should we wish it—a stove could be easily placed almost anywhere, either upstairs or down. We use the downstairs room, which is 14 feet wide and 16 feet long, for a scraping and casting and general bee-work room. This room is 8 feet high. The upstairs is 3 feet at the eaves, and about 10 feet at the center. This room is used for storing supers filled with sections, and also hives of extra combs. It is reached by means of a stairway from the general work-room below. The upstairs store-room has two windows in each end, so that if some of the windows are darkened by having supers piled in front of them there will still be at least one window where light may enter for any work—wedging up supers, or scraping separators.

A large door on the opposite side of the building from which the picture is taken, opens to the alley, so that supers can be loaded from the upstairs room directly to and from this room without carrying up and down the stairs. We have had 2000 filled supers in the room at one time, and there is nearly that many there now. This room is the same size as the downstairs room in floor space, but the walls, being lower on the sides, there is not so much storage space. As we did the work ourselves, the cost for material did not exceed $50.00. It is the best honey-house we ever had, and I do not think that I have ever seen a better one that was reasonable enough in price for the average bee-keeper who depneds on the bees to furnish him a living.

The downstairs room has 3 windows, and one window in the door. One door opens toward the house on the south, and lets in the sunshine, and the other door opens on the alley, for unloading honey and loading out the cased comb honey for shipment.

By having a good fire going in this room, one can do the winter work with supers comfortably. The building is hardly large enough for all our supplies, as you see more bive covers and bottoms stored in a piano-box at the end of the building. Some of our syrup-feeding troughs, for feeding the bees in the open, are also shown under the window.

CANADIAN BEEDOM~

Conducted by J. L. Byer, Mt. Joy, Ontario.

Size of Hive for Farm Bee-Keeping

A farmer in Nova Scotia who is thinking of keeping bees to a limited extent, writes me asking what size of hive I would advise him to use. He says that he will not be able to give the bees very close attention, as he is always busy on the farm. While bees in any style or size of hive require *some* attention, yet experience has taught me that a large hive will give better satisfaction than a small one, for the production of extracted honey, for a given amount of labor and attention. Consequently I advised this farmer to use the 10-frame Jumbo size of hive, as for the conditions outlined in his inquiry, I believe it is a far better hive than the standard Langstroth.

In this connection, I might say that I always advise beginners who contemplate specializing in bee-keeping, to use the standard Langstroth frame, yet I frankly confess that for my own personal use, I would, if starting over again, be quite likely to use the deeper frame I have recommended to my farmer friend.

The Tariff on Honey

At the Brantford convention, held in February, a resolution was passed asking the Dominion Government not to change the present tariff on honey. I note in one of our dailies that the said resolution was, with many others of a like tenor, duly brought before the House, but as the terms of the reciprocity measure seem to call for "all or none," it looks doubtful that any changes will be made by the Canadian Parliament, which body of legislators will surely pass the bill, as it has been made a party measure.

All of us who are opposed to the measure, are now in the unique position of looking to Washington for relief, and quite possibly many Canadians are wishing that the extra session of Congress will refuse to ratify the Bill. Personally, I am with the majority of bee-keepers here in Ontario, who depend upon bee-keeping for a *living*, and who are much opposed to the free entry of honey into Canada. I believe if our American cousins were in the position that we are, they too would feel as we do.

For some reason our markets for extracted honey are considerably higher than those ruling in the States—if such were not the case, reciprocity in honey would not cut much of a figure one way or the other. With the free entry of honey into Canada, prices will be on a level for the two countries—that is the only logical conclusion. "Selfish," some one says. Well, perhaps so to a certain extent, but when it is a question of bread and butter, a certain amount of selfishness is justifiable. However, I am not worrying about the matter any more, as I have learned that it is no use to trouble about things that are beyond my control. If honey must be cheaper, I suppose I will have to follow Hutchinson's advice and "keep more bees" in order to make up the falling off in my annual income.

Bees Long Confined in Winter

A bee-keeper in Pennsylvania who, in addition to being a honey-producer, is also a commercial queen-rearer, writes me asking why it is that our bees here in Ontario will go 4 to 5 months without a flight in the winter, and come through all right. He says that in Pennsylvania where he lives, a confinement of from 9 to 10 weeks is sure to work havoc with the bees, as many colonies will die from dysentery, no matter whether the stores be honey or sugar syrup.

I frankly admit that I can give no explantation, and the same thought has often come to me as I have read of harm being done to colonies after a cold spell of a few weeks in the more southern parts of the continent. The Pennsylvania friend referred to packs his bees in practically the same way that we do here in Ontario, and as the climate is colder here than it is with him, it certainly seems strange that they should have trouble in wintering their bees when they can have a flight so much oftener than ours can.

Last month, in commenting on the long confinement our bees were having this winter, I expressed the hope that in next month's notes I might be able to say that our bees had at last had a cleansing flight. I am glad to say that the hope has been realized. On February 25th, the sun shone brightly, and some bees that were in a sheltered place flew quite a bit, but the flight was rather a detriment than otherwise, as with a cold wind many bees perished in the loose snow. Of course, only a small percentage of the colonies were stirred up at all at that date, and not till March 13th and 14th, did they have a chance to have a cleansing flight. As they flew last on October 26th, they were confined for 4 months and 18 days.

Now, according to the way it seems to work out in Pennsylvania, the bees should certainly have been in pretty bad shape. However, I am glad to say that no such bad results have occurred. So far as I can see by outward examination, tbe bees in the Cashel, Altoma, and Markham yards have wintered perfectly, not a colony showing any signs of having experienoed distress. In the home apiary about a dozen colonies suffered with dysentery, 2 or 3 of them to such an extent that they will perish. However, "there's a reason," as these bees were all moved in December, and the night after moving the thermometer dropped to below zero, and for 4 weeks following we had the severest weather in the winter. Bees can often be moved in the winter with no ill results—but I am now convinced that the opposite results are also possible. Of this more in a future issue.

Again the Long-Tongue Bee

After having waved the flag of truce as I did in the December issue, I was rather surprised to see, on page 70, that Dr. Miller had again taken up nearly a page of the Journal, for the purpose of castigating the writer for the offense of having characterized the long-tongue mania of a few years ago, as a "humbug." I had thought the matter ended, and instead of asking the questions Dr. Miller refers to for his especial consideration, they were rather given for the readers at large, as he had placed me in such a position that it became necessary to reply to his arguments, or else by silence declare that I was altogether wrong in the statements I had made.

Now as to the statement I made about the idea of the bees' tongues being lengthened in the "course of a few short months," I must say regardless of all the Doctor has said about sports in roses being perpetuated, that I still believe with the minority that believe that anything in the nature of "swearing" is entirely superfluous, to say the least, so far as making one tell the truth is concerned. But as judge and jury are quite willing to accept my "yes" or "no" in a court of law, I suppose you will not question my veracity when I say "yes,'" most emphatically, to your question.

No, I didn't *count* the bees on the clover, but I *did* look into the supers and brood-nests, ridiculous as the idea may seem. And when I found many cononies of my own stock with 50 per cent more honey from the clover than had those of the long-tongued variety, is it any wonder that I used that awful word "humbug," when referring to them? After all, that word should not cause any resentment to you, Doctor, because so well known a man as P. T. Barnum declared that the American people liked to be *humbugged*; and as the veteran showman travelled in Canada, also, no doubt he thought the same of the Canadians even if he didn't say it.

Yes, I know that "disinterested men have measured the tongues of bees and found that they are not all of one size," and I suppose that bees of the same hive would show variation. Men have not changed so much in stature during many hundreds of years at least, and yet there are many variations in this biped. I'd wager a good deal that Dr. Miller's brain is larger than that of many men, and I also feel sure that his "controversial bump" is above the average. And yet for all of that, his great-grandson *might* be deficient in these respects.

I almost forgot to ask you, Doctor, if you had read what Prof. Cockrill said at the Colorado convention, on page 75. Here are the words:

"The honey-bee is the last word in all bee-life, and has become so firmly established in her position that little change has taken place in her characteristics in three or four *million* years."

And you expect to change the length of their *tongues* in a few months! (Ha! ha!)

There, I'm done, for

"He who fights and runs away,
Will live to fight another day."

CONTRIBUTED ARTICLES ~

Uniformity of Hives and Fixtures—Comb-Honey Supers

BY F. GREINER.

If some day in the near future all bee-keepers should adopt the same kind of a bee-hive, the same kind of comb-honey super and extracting super, and every other kind of bee-hive and fixture of one uniform character, the manufacturers of these articles would be saved a whole lot of trouble, and also would the bee-keepers. I do not expect this thing to happen. If everything was uniform, this world would be a monotonous place. As it is, it isn't. Conditions vary so much that it seems best for some to use different appliances than some others use. We also often become attached to an article, and so familiar with it that we can use it to very good advantage, even if it is faulty, and we become loth to admit that there is anything better.

At present I have taken about 100 sectional hives into use, and as I learn to handle them I like to handle them, although it produces some confusion to have two different styles of frames in the yards; but the advantages of this hive are numerous when one learns how to use it. Nearly 20 years ago I gave practically the same hive a trial, but it so displeased me at that time that I discarded it. I have always derived pleasure and satisfaction from experiments made with different kinds of hives and appliances. There are but few of the new things that have been brought out during the past three decades, but what I have tested, if it was practicable for me to do so. There is a great collection of all sorts of comb-honey supers still stowed away in my shop, awaiting their transformation into something more to my liking.

In viewing the different comb-honey supers offered to the bee-keeper, there is not one figuring prominently on the manufacturers' lists, if it does at all, which is so constructed that it keeps the parts of sections clean most exposed to the view of the prospective purchaser. As far as I am informed, the wide-frame super is the only one accomplishing this. A double-tier super of this kind was introduced by A. I. Root in the early 70's, adapted to the 10-frame Langstroth hive. It was a good super, but afforded too much room in ordinary honey seasons. We cut it in two, and adapted it to the 4x5 sections, using it alongside of other styles of supers. When the no-bee-way section came into prominence, a hundred of these supers were modeled over by us for their use, and they have served ever since, more of them having been added.

In my intercourse with different bee-keepers of our State, I find really but few who have any practical knowledge of the wide-frame super, for the reason they had to take what supply manufacturers offered them. As I always made my own supplies I was not hampered that way. I even made my own fences, because the fences as sold by the dealers are wrongly made—the cleats are too narrow, and should be more than twice as wide as they are made.

The principal objection raised by those unacquainted with the wide-frame super is that it must be difficult to remove the filled sections from the frames. This is not the case, for indeed they come out very easily; they almost fall out if held flatwise. Bee-keepers who have visited me during the "casing time," were surprised that the sections came out as they did, and with so little effort on my part.

The advantages of the wide-frame super are in that they keep the sections clean on all sides, and that if any manipulation is necessary while they are on the hive, the sections are shifted about in fours. The bee-spaces around the ends of the frames also insure a better filling of the end sections than is attained in supers without this bee-space. By comparing the honey from such differing supers that fact is easily proven.

It is said by advocates of other styles of supers that there is more opportunity given for gluing up the sections in a wide-frame super than in any other; it is said that the bees apply the glue more plentifully wherever there is a crack, and the wide-frame super has more such than any other. There is some truth in the last assertion. I would say that in a good honey season very little glue is deposited, no matter what the style of super is, and often the sections come off as clean as they went on. In a slow season the cracks and crevices are always filled with glue.

When the wide frames are made as they should be, the sections fit in very closely. The joints between the bottom-bars of the wide frame or the top-bars of same, and the sections between the two, give no opportunity to crowd in any glue. There is a kink about nailing wide frames. It may be so well done as to draw the bottom-bar "bowing" up, the top-bar slightly bowing down. The sections when put in place are then "hugged." But even should a little glue be deposited along the edges of a section, this is much easier to be removed than when the whole broadside is covered with the "stuff," more or less. I notice of late, by Mr. Crane's writing, that he slips thin pieces of wood under his sections in T-supers, to keep the bottom clean. Comment is here unnecessary.

The most annoying feature of the T-super is in the gluing of the T-tins to the sections. The bees have a way of crowding in a lot of glue right here, and this is clear across the section. This gluing holds much more tenaciously than when the gluing is done lengthwise of the section as in the wide-frame super. This and other features make the T-super one requiring too much fussing to suit me. The greater expense of the wide-frame super, and the greater height by ⅔ inch over the regular T-super, and by 5-16 or ⅜ inch over the section-holder type of super, are the only objectionable features of the wide-frame super. On the other hand, it is the super for business; it may be handled in any way, shape or manner. It is fool-proof.

Naples, N. Y.

* * *

The Stewart So-Called Foul-Brood Cure

BY C. P. DADANT.

I was about to prepare a lengthy article in reply to Mr. Henry Stewart's assertions in the February number concerning his claim of having discovered a method of cleaning out and curing foul brood, when I received a copy of the communication sent by Mr. I. E. Pyles to the American Bee Journal, and which I understand is to appear in the present number. I refer the reader to this. Mr. Pyles asserts, with the testimony of his own eyes, that Mr. Henry Stewart had numerous cases of foul brood in his apiary last July, after 5 years of his treatment. This will suffice to satisfy the average reader that Mr. Stewart is not successful. However, I wish to say a few words in addition.

Mr. Henry Stewart, in his article, says that he believes me sincere. It is not a matter of sincerity, *in my case*. I mentioned nothing but the testimony of others. If there is a question of sincerity, it is between himself and the hundreds whose experience contradicts his own.

Out of curiosity, however, I wrote to the two best authorities on foul brood, in my estimation—Messrs. France and McEvoy.

Mr. France re-affirms his testimony as quoted by me, that wherever cells containing sealed brood or honey are left in the combs, *even after disinfection*, the disease re-appears. Mr. France's truthfulness is above suspicion. In a letter which urged the passage of an Illinois law, he stated that foul brood is now so nearly stamped out in Wisconsin that he no longer needs the entire appropriation allowed by the State. He says that it is about as safe to let foul brood alone as to let small-pox work itself out.

The statement of Mr. McEvoy is most emphatic. This man, the oldest foul brood inspector in the world, as far as experience goes, is acknowledged by all apiarists whom I have occasion to meet among his acquaintances, as the most successful foul-brood eradicator in the country. He promises an article on the subject, but this will probably be delayed some time, so let me give a letter which he wrote me under date of March 15, 1911:

FRIEND DADANT:—I received your letter of some days ago, calling my attention to an article by Mr. Henry Stewart in the American Bee Journal for February, 1911, page 48. I was astonished to see Mr. Stewart claiming that his "bees remove the ropy matter as well as the scales" of foul brood—a thing that no bees in the world have ever done. No bees will ever attempt to remove foul-brood matter in its ropy state, and when the foul-brood matter is drying down it glues itself fast to the lower cell-wall and bottom of the cell, and there it will remain as long as the comb lasts.

Honey in foul-brood colonies becomes diseased through being stored in cells where foul-brood matter has dried down, and all the brood that is fed any of the honey taken out of these diseased cells will die of foul brood, and all the brood that is ever fed in these corrupt cells dies of foul brood before it gets to be 9 days old.

When foul brood once raged so badly in the Province of Ontario, I found it spread in many places through bee-keepers getting combs from apiaries where all the colonies had died of foul brood, and brought these combs home, used them in their extracting supers, and by so doing got foul brood spread all through their apiaries. Putting combs with many cells of foul brood in them over strong colonies during honey-flows, and leaving them there until the bees fill them with honey and seal every cell, only gives the bees a good chance to cover the crust of foul brood which they could not remove on account of these crusts being glued fast to the lower cell-walls. If I uncap these combs, and put one each in the center of a brood-chamber when a colony has brood in it, I will spread the disease at once.

Yours truly, WM. MCEVOY.

I return to the first suggestion that I made. Mr. Stewart has probably had pickled brood as well as foul brood, and he has found the former cleaned out and concluded that foul brood could be thus cured.

One credit I wish to give to Mr. Henry Stewart. He has honestly refused to co-operate with the 2 or 3 obstructionists who have tried to misconstrue our efforts in applying to the Illinois legislature for laws concerning bee-diseases. The editor of the American Bee Journal, as well as some others, are thoroughly indignant at the misrepresentations which have been made, and which appear to have no object but to prevent the majority of bee-keepers from securing the legal help they seek.

At this date (March 11) we have already secured the passage of the foul brood bill in the Illinois Senate. We have to thank the hundreds of bee-keepers who have flooded the State House with urgent appeals to the members of the legislature, and we can assure them that if the measures fail, it will be owing to the intricacies of political fights, and not to any credit on their part to the slanderous and venomous letter written by a "disgruntled kicker" to some of our representatives.

The bee-keepers are fully awake to present conditions. The foul-brood question is not going to be allowed to sleep. It is of too serious a nature to be kept down. It suffices only to attend a meeting of bee-keepers in any part of the land to realize the seriousness of it. But let none of our friends become discouraged. We are as sure to stamp out the disease within a few years as the human has succeeded in keeping Asiatic cholera out of civilized and progressive countries. It will take but a little more united effort. Illinois is behind her sister States, but when she comes to the front it will be with the assurance of success.

Hamilton, Ill.

[The following is the communicaton referred to by Mr. Dadant, as having been written by Mr. Pyles:—EDITOR.]

EDITOR AMERICAN BEE JOURNAL:—I have read the articles of Mr. Dadant and Mr. Stewart concerning foul brood. I happen to be personally informed concerning Mr. Stewart's bees, by personal inspection, and desire to say a word.

Mr. Stewart says that he does not base his authority on what some good author has said on success and failure, but that he had his system in operation on quite a large scale for 5 years before he gave it to the public.

One of Mr. Stewart's neighbors, a man who worked for him less than 3 years ago, himself a bee-keeper of ability, says that when he worked for Mr. Stewart, they treated the bulk of the disease by the McEvoy plan, and that he had given the Stewart plan a thorough trial himself, and while they seemed to get the combs fairly cleaned up, yet when used for brood-rearing, *in every case foul brood had reappeared.*

Mr. Stewart says his bees remove the scales and the ropy matter. I visited Mr. Stewart's apiary and examined the hives, and after a month of treatment, *a la* Stewart, I found that they had failed to do either.

Dr. Phillips, of the Bureau of Entomology, at Washington, D. C., told me that he had found the spores of American foul brood in the nicest kind of white honey in sections, and that if said honey had been fed to larval bees, in all probability the colonies so fed would have contracted the disease.

If such be the case, how is Mr. Stewart going to remove the germs out of the honey, even if he should finally get the scales removed from the brood-combs?

What I saw of Mr. Stewart's treatment during my trip of inspection as deputy, July 10, 1910, leads me to believe that Mr. Stewart is either wilfully mistaken, or is joking, and doing great damage to our work of eradicating foul brood. The editors of bee-papers should refuse to publish such statements that would have the effect of scattering foul brood wholesale by every man who tries such a treatment. I. E. PYLES.

Putnam, Ill., March 1.

[It seems to us that in view of the statements made by Messrs. Pyles, Dadant, France, McEvoy, etc., it would be unwise and useless to continue the discussion on the line that bees cure foul brood of themselves. Probably in every such instance it wasn't the genuine foul brood at all. And even if it were the real article, it wouldn't be safe to rely upon such questionable procedure any more than it would to allow small-pox or other serious contagion to care for itself. Better be done with carelessness and guess-work when it comes to foul brood, and get after it in a vigorous manner, through competent bee-inspectors backed up by stringent State laws, and rid the country of both the foul-brood disease and those who ignorantly or otherwise harbor it in their apiaries.—EDITOR.]

Winter Temperature for Bees

BY DR. C. C. MILLER.

On page 43, J. L. Byer reports that Mr. Davison keeps his bee-cellar at 35 degrees as near as possible, and Mr. Byer says:

> "I doubt if bees are brought through in better condition by any other man in America, and when asked what he thinks about the orthodox figure of 45 degrees for cellar wintering, he invariably answers, 'All bosh.'"

Mr. Byer, if you can establish that 35 degrees is the desideratum, bee-keepers by the thousand will rise up and call you blessed. With all my heart I wish you might prove that 35 is the best figure. It would be worth many thousands of dollars. But whatever my wishes in the matter, my belief is that if you were to proclaim 35 as the right temperature, and should get all bee-keepers to act upon it, a very large number would rise up and call you—well, not very blessed.

While accepting 45 as perhaps as near as we can get to the right figure in general, I have repeatedly given this advice: "Find out at what temperature bees are most quiet in *your* cellar, and by *your* thermometer, and then try to keep your cellar at that temperature." If Mr. Davison finds that his bees are most quiet in his cellar by his thermometer at 35, then by all means he is right in considering 45 "all bosh" for him, and he is right to try to maintain 35 degrees.

But before adopting 35 as the right temperature in general, it would be well to inquire first as to Mr. Davison's thermometer. In a bunch of a dozen ordinary thermometers there may be found a variation of perhaps 10 degrees. Do you know, Mr. Byer, that his thermometer is correct?

If his thermometer proves correct, it does not yet follow that the temperature for him is the best for all. "In order to keep it as low as that it was necessary to have a window open all the time." I think that open window makes no small difference. Little doubt that with the fresh air from an open window the bees will stand a lower temperature than with a closed cellar. But a cellar that needs a window open all the time to keep the temperature down to 35 degrees is hardly the average cellar. There are more cellars that need the window closed all the time to keep the temperature *up* to 35. Take a cellar of that kind, and if the window is open the temperature will be below 35 a good part of the time, and many times so much below that Mr. Davison would hardly consider it warm enough.

In order to the best wintering, I suppose we want to find the point of temperature at which bees are quietest—most nearly dormant. Above that point activity will increase, and with greater activity greater consumption of stores. Below that point there must be greater consumption of stores to keep up the heat. Of course, the greater consumption of stores the more the intestines are loaded, and the greater trouble from confinement.

Now, what is the point of temperature at which bees are most nearly quiet? I suppose thousands have found it to be about 45 degrees. I think Mr. Davison is the only one I ever heard of who puts it as low as 35. Now shall we throw overboard the testimony of the thousand or more, and take the one very exceptional case as our guide, and say to the beginner, "Don't bother; if your cellar stands at 35 you're all right?" Do you think it would be wise?

Assuming that Mr. Davison's thermometer is correct, it might not be entirely out of place to ask: Is his successful wintering on account of the low temperature, or in spite of it? and what proof has he that with just as pure air in his cellar he would not have just a little better success at 45 than at 35?

With many others I've been sorry to hear of your sickness, Mr. Byer, and hope that before this gets into print you will be quite yourself again, and able to give this exceedingly important matter your best thought. If you could know just how kindly I feel toward you, I think it would help just a little bit toward making you well.

Marengo, Ill.

Winter Stores for Bees

BY G. M. DOOLITTLE.

From the many questions asked me from time to time, it would seem that there is not a general understanding as regards the amount of stores a colony of bees should have to carry them through the winter. Some seem to think if the bees have barely enough to get them through to March or April, that is all that is required. Yet they are always anxious over the matter, wishing in some way to have a sort of "insurance" to guard against starvation, should not the spring open up as propitiously as usual.

Now, the best insurance that I know of in this matter is to know positively that each colony has sufficient stores in the fall to last till the flowers bloom in their locality the following spring. If we know this we need have no fears as to their safety along this line. But just how much this should be, is something that often puzzles the bee-keeper. It is always well to bear in mind that under the same circumstances the very strong colony will not consume more stores than the one weak in bees. In other words, a colony that occupies the spaces between 8 or 9 combs when the cluster is settled down for winter, will require more honey to insure safe wintering than will the one which only occupies 5 spaces. And any colony occupying less than 5 spaces should be united with some other colony of about the same size, if the bees are to be wintered out on the summer stands.

Then, it is always well to know the amount of stores each colony has during the forepart of October, as a later disturbance of the winter cluster is often detrimental in these Northern States, by causing them not to settle down into that quiescent condition necessary for good wintering. But this is not telling how much each colony should have.

When I first began keeping bees I found one writer saying in the bee-papers, that 35 pounds was the needed amount, while many said 25 pounds was sufficient for any colony where wintering on the summer stands was practiced. My preference is 30 pounds. And 20 pounds was considered amply sufficient for those colonies that were to be wintered in the cellar during 4 or 5 months of the coldest weather. Those colonies that did not have these amounts were to be fed till they did have them, and the earlier in October this feeding was done, the better it would be for the bees, as they required some little warmish weather to get their stores sealed and about the cluster as was desired.

It often happened that some colonies would have from 45 to 60 pounds of stores, while others would not have more than 15 to 20, and in this case where the movable-frame hives were used, the overplus could be taken from those rich in honey, when by exchanging combs with the poor ones, both would be benefited. If, after this was done, there were still colonies not having the desired amount, they were fed, and if there was no honey to do this feeding with, a sugar syrup was to be made to supply their wants, some claiming that such was even better for winter stores.

After trying all the formulas given for making this sugar syrup, without finding any not having many defects, I hit upon the following, which I have used for more than 30 years with success:

Pour 15 pounds of water into a suitable sized vessel, and set it over the fire till it boils. Then stir in 30 pounds of granulated sugar, this stirring being done so that it will not go down on the bottom in a heap and burn. As soon as the whole boils again, set from the fire and stir in 5 pounds of extracted honey; this making 50 pounds of good feed for winter, and being ready to feed as soon as cool enough not to burn the finger by holding it in the same.

I have given the above formula before; but I am so often asked about how to make feed for bees, I thought it would do no harm to give it again.

There are some among our numbers who prefer to feed their bees in the spring, rather than to furnish the full amount in the fall to last till the flowers give the needed nectar. On this question I am somewhat doubtful, for after years of experimenting I am convinced that the colonies that come out rich in stores after their winter nap will become fully as prosperous colonies the following season as will those on which many pounds of feed and a large amount of work have been bestowed. And if this is so, the labor part, at least, could be spent in other directions to a better advantage. However, it is better to feed in the spring than to let any colony go short of stores, which will result in light brood-rearing, if not in a total loss through starvation should an unexpected cold spell of sour, cloudy, rainy weather occur at the time of blossoming of the early flowers.

It is well to remember that if we allow our bees to die in the spring from starvation or otherwise, we lose all they have consumed thus far. It would be far better to have them die in the fall and thus save the stores. If I did not intend to know positively that all colonies had stores enough to last till the flowers bloomed, or till the feeding could be done, I would unite them until I did, for it is one of the mistaken things to do, to let bees starve in the spring.

If for any reason you think it possible that some of the colonies do not have stores enough, it is well to go to them on some mild day after they have had their first flight in the spring—a day when it thaws a little without the sun shining (as stores can be much more readily seen on a cloudy day)—and remove what you have over the cloth covering the frames, then carefully roll this covering up till you come to the cluster of bees, when you can note the amount of sealed honey not covered by the bees. If you find plenty of sealed honey along the top-bars of the frames, you can set that colony down as having enough to last till the flowers bloom. If plenty in half of the combs, such colonies should be watched by looking again every 10 days to 2 weeks till the flowers blossom. If very little, or none at all, then make preparations for feeding such at once, though, if they can stand it until the next day warm enough for them to fly, it is better to wait till then, as feeders can be better arranged when the bees can fly than during a cold spell. Should no such day occur, then they should be attended to before they starve, no matter what the weather, for it is better to lose a few bees through their flying out and dying with cold, rather than have the whole colony perish from lack of food.

Where you can feed by giving frames of sealed honey, either from other colonies or from such having been set aside the summer before for this purpose, it is not necessary to delay for a day of flight, as by careful working an empty comb at the side of the cluster can be removed, the frames gently spread apart till the cluster is reached, when the full comb of honey can be set in. If this is done in cold weather, these filled combs should be placed in a warm room for 4 or 5 hours until they are thoroughly warmed through, otherwise when placed in the cluster, the bees will be damaged from the frosty honey. By using smoke, as in summer, should the bees be inclined to fly, very few will be lost, and the colony saved, which is well worth the while at this time of the year.

Borodino, N. Y.

Uniform Shipping-Cases for Comb Honey

Read at the Colorado State Convention

BY FRANK RAUCHFUSS.

Uniformity of grading and uniformity of packages of all commodities produced in rural districts and afterwards brought together to be shipped in straight car-load lots to distant market is now being recognized by all shippers, whether individuals or associations, as a matter of prime importance.

In fact, the business in some of these commodities could not possibly have assumed the gigantic proportions that it has, without proper standards of grading and packing that are generally understood by the trade throughout the country. Oranges and lemons are packed in standard-size boxes, with grade and size indicated on the end of the box. Apples, cantaloupes, dried fruits, nuts, etc., are all packed in uniform packages if coming from localities where their production is a matter of some consequence.

It is now only in localities where these commodities are produced in a small way, as a side-line to farming, and considered of little or no consequence, that the matter of grading and packing does not receive the attention that it should.

Bee-culture in Colorado has developed to such a stage that the bulk of the comb honey crop is now marketed in a fairly satisfactory manner; but there is still room for improvement in many quarters as regards proper grading. However, this is a subject outside of the scope of this paper, and I shall confine myself to the matter of packages.

Comb honey is an article that sells much on its appearance, no matter how fine it may be in flavor and body. If stored in poorly made or discolored sections and packed in unattractive cases, it will not bring nearly so good a price as an article of inferior quality but properly handled and packed.

Most of our crop must find an outlet in the States east of us, and can only be marketed to advantage in car-load lots.

In my capacity as manager of a co-operative association of bee-keepers for the past 12 years, I have had unusual opportunities to study the marketing question from all sides, and have come to the conclusion that the policy of manufacturers of bee-supplies in catering to the whims of individuals for new styles of sections and special cases for the same is ill-advised, and works a hardship on the car-load shipper at the point of production, as well as on the jobber and retailer at its final destination.

What the car-load buyer of comb honey is interested in, principally, is to secure stock that is carefully and conscientiously graded, and packed in attractive cases of uniform size.

Any buyer of experience will gladly pay a little more for such than to take goods of like quality but packed in a number of different sizes of sections and shipping-cases. The reason for this is that it requires less time in loading the car (if bought f. o. b. shipping-point), less risk of damage while in transit, less time to unload at destination, less room occupied in the warehouse, and, last but not least, less trouble in making sales, and better satisfaction to his trade.

A car of comb honey packed in cases of exactly the same outside dimensions (not necessarily of the same manufacture) *can be loaded in less than half the time of a car composed of different sizes of cases.* If honey is brought in from the apiaries and first stored in a warehouse before being loaded in the car, then the trouble will be aggravated, as different styles of cases must be placed in separate piles.

In order to see if the manufacturers of bee-supplies would be willing to recognize these difficulties, I wrote last fall to several of the largest firms, and am glad to report that they all have shown a desire to come together on a standard outside dimensions for 24-section double-tier shipping-cases for 4¼x4¼x1⅞ sections, as well as for 24-section single-tier cases. It is hoped that cases for the coming season's crop will be of uniform outside dimensions. The following measurements were suggested:

SPECIFICATIONS FOR DOUBLE-TIER CASES.

Outside Dimensions for Standard Double-Cases for 4¼x4¼x1⅞ Bee-way Sections—
13⅞ inches long, 9½ high, 8⅛ wide.
Full half-inch lumber for ends.
Full quarter-inch lumber for tops, bottoms and backs. Full ⅜-inch lumber for grooved cleats.
3 sheets corrugated pasteboard for each case.
2 sheets plain paper for drip-pans.
Plain 2d fine wire nails for nailing covers.
Cement-coated wire nails for balance of case.
Covers printed—"Glass! This Side Up!"
Packed in re-shipping crates.

SPECIFICATIONS FOR SINGLE-TIER CASES.

Outside Dimensions for Standard Single-Tier Cases for 4¼x4¼x1⅞ Bee-way Sections—
18¼ inches long, 12 wide, 5⅛ deep.
Full half-inch lumber for ends.
Full quarter-inch lumber for top, bottom and back.
Full ⅜ inch lumber for grooved cleats.
2 sheets corrugated pasteboard for each case.
1 sheet plain paper for drip-pan.
Plain 2d fine wire nails for nailing covers.
Cement-coated nails for balance of case.
Covers printed—"Glass! This Side Up!"
Packed in re-shipping cases.

If a discussion on the above standards could be arranged for this convention it might be the means of bringing out some valuable information.

Denver, Colo.

The Status of Apiculture

BY DR. G. BOHRER.

That apiculture as regards a knowledge of the habits, care and management of bees and the success of this industry in practice is far in advance of what it was 50 years ago is a fact. And that it is far behind other industrial pursuits as regards a thorough theoretical as well as a practical knowledge of them is also true. In addition to this, it is safe to assume the ground that the food and medicinal qualities of honey as compared with other sweets is also very imperfectly understood by the masses of our people. At no time within the recollection of the writer has honey been regarded as much more than a luxury, and not, by all odds, as the most wholesome food of all the sweets in use among the civilized nations of the world. Yet such is now known to be a fact by all who have made the food qualities of the different sweets a subject of scientific investigation.

It is well known that honey is partly digested, through which it taxes the organs of digestion much less than the different sugars so commonly and so extensively in use as food. But to render it still more difficult to digest and destructive to human teeth, it is very extensively combined with glucose (corn syrup), which is not at all palatable, and would not sell upon the markets if it were not combined with honey, cane syrup or sugar. And it is also very largely used in the manufacture of candies; but it is here that it gets in its deadly work on the teeth of all who eat candy containing glucose. I feel warranted in hazarding the assertion that not 5 pounds of candy in each thousand pounds of this product as now found upon the markets of the country are free from the presence of glucose. It may be readily detected by the flinty character of the candy, which, as stated, injures the teeth by wearing them away. In fact, it serves as a file in cutting or grinding them away in the process of mastication.

Millions of pounds of such abominable stuff is permitted to be sold to an uninformed public annually, and that, too, in the presence of a so-called pure food law upon this subject, which is anything but what its name concerning this particular matter would indicate. In support of the foregoing statements I will refer the reader to the pure food law upon this subject in my own State (Kansas), which is evasive in everything, and specific in nothing, except that it permits the wholesale use of glucose in the manufacture of candies. And to make the matter of deception a most perfectly masked affair, it authorizes the vendor and dealer to use as a covering the following language: "Guaranteed under the pure food law." But special care is used in omitting to state the presence of glucose or the proportion of this ingredient to that of pure cane or beet sugar or syrup. So that nothing worth knowing is guaranteed by this feature of the Kansas pure food law, except, perhaps, that such candy does not contain either strychnia, arsenic or prussic acid in doses sufficiently large to kill outright in a few minutes or hours after taking.

Now, if any one will point out one thing in which the public is protected, aside from what is above mentioned, I will most humbly beg pardon and make all apologies that are due in the case. That the laws of many other States are fully as misleading and deceptive as is the law of Kansas, is no doubt true, for in my opinion the law was formulated at the expense of much labor and money to those who shaped, or caused the law to be shaped, as herein stated.

The foregoing are a few items in regard to which the world is in a seriously benighted condition, and simply to advertise honey until the crack of doom will not add anything of value to the increase in the sale of honey. What is needed most is, as already stated, that every industrial and educational institution throughout the land be required to teach the habits, management, and practical care of honey-bees, and demonstrations fully illustrating their practical management in every important detail should be given, as is the case in teaching other industries. In assuming this ground, I will say that but very few persons engaged in practical bee-keeping are found to be on the delinquent tax-list, but, on the contrary, about all will be found to be punctual in paying their full share in support of every school and college of the country, and are as much entitled to a due scientific consideration as any other legitimate pursuit engaged in by our people. Yet it is neglected, to the discredit of all who are in charge of our educational institutions, as well as the masses of our people. I hold that it is the duty of every sane-minded person to demand that all industries be taught in our schools of whatsoever kind, and that, too, without being called "monkeying with bees" any more than they call the dairy business monkeying with cows.

In addition to this, all parents have not only a just right to know what their children are eating, but should make it a point to know what their children are using as food. As matters now stand, they have no available means of ascertaining the ingredients of the candies on the market.

In making the foregoing statements, I know what I say to be true, as I have repeatedly asked retail dealers in candies to show me the formulæ after which their candies are made, but not one of them has been able to do so, for the reason, they tell me, that it is not given out by the wholesale dealers nor by the manufacturers. These are not withheld from public gaze except for the purpose of keeping the people from knowing what they are eating, as the manufacturers know quite well that their abominable compounds would not sell as they now do.

A short time before the National pure food law went into effect, an unlimited amount of glucose (corn syrup) was doctored with a small quantity of honey and labeled "Honey." This the law prohibits, but these vendors were left free to label such a compound a "blend;" but this showed that the package was not pure honey, and as a result the public would not purchase it.

Now to remedy this lamentable state of affairs, let every honey-producer talk to his member of Congress, as well as every member of the legislature in each State, and in time a remedy will be put in force, and the product of the apiary will take its stand side by side with the products of every other legitimate industry, and honey will sell in much larger quantities than heretofore. But with the absence of information concerning bee-keeping, now so prevalent, it will continue to occupy the background as it does now. The lack of general information concerning bees and their care, as well as the worth of honey, must remind one quite a bit of that little girl's knowledge of physiology, who, upon being requested by her teacher to define digestion, answered that "digestion begins with the teeth and ends with the big and little testaments." In a day or two her mother sent her teacher a note instructing her "not to teach Jane any more about her insides," assigning as a reason that it "made Jane too proud."

The above illustration is a fair representation of the real knowledge the masses possess concerning the science of apiculture, and the real worth of honey as food or medicine.

Lyons, Kans.

CONVENTION PROCEEDINGS

Report of the Indiana Convention

The Indiana State Bee-Keepers' Association met at Indianapolis, on Feb. 2, 1911. Three sessions were held—morning, afternoon and evening—each of which was well attended, and much interest was manifested.

Among the special features of the program were the illustrated talks given by E. R. Root, editor of Gleanings in Bee Culture, and Benjamin W. Douglass, State Entomologist of Indiana. Mr. Douglass gave an illustrated talk on the "Anatomy of the Honey-Bee," in which he worked out briefly insect anatomy in general, and then spoke of the special modifications found in the honey-bee, and the adaptation of these modifications to bee-life. A set of remarkably accurate lantern slides were used, and the talk was entertaining and instructive throughout.

In Mr. Root's afternoon talk on the "Present Status of American Apiculture," he spoke of the magnitude and importance of our industry. Some figures were given relative to the enormous annual output of honey in the United States during the past. The tendencies of the times were noted and explained, and some prophecies were made as to the future of bee-keeping. Pictures were shown of apiaries located in various parts of the world The foreign pictures were interesting in as much as they illustrated the vast difference between American and European practice. The one picture that rightly remained upon the screen the greatest length of time was one taken by Mr. Root, of the late Rev. L. L. Langstroth. While the picture was upon the screen Mr. Root paid a tribute to the memory of the Father of American Apiculture that was most eloquent and fitting.

In his evening talk Mr. Root presented in a most excellent manner the "Relations of Bee-Keeping to Horticulture." Many pictures were thrown upon the screen, showing the various devices of the flowers to prevent inbreeding, and to insure cross-pollenation. A brief history of the various charges made against the honey-bee by the fruit-growers was given, and the speaker showed how the bees were vindicated in every case, and how the fruit-growers are slowly but surely recognizing the enormous importance of the honey-bee as an agent of cross-pollenation.

George Demuth, in charge of apiary inspection in Indiana, gave a brief outline of the work done by the department of Entomology. By means of maps he showed the distribution of the brood-diseases in Indiana, and gave some interesting data on the spread of the different diseases. A summary of the inspection work done during the past 2 years shows that approximately 6000 colonies were examined during each year. The percentage of colonies that were examined that were diseased was, in 1909, 23 7-10 percent, and in 1910, 13 1-10 percent, showing the great improvement as a result of one season's work.

The work of 1910 was largely an extension of that of the previous year, and the territory it covered sometimes reached the border of the infested areas. It was estimated that in the territory covered in 1909, and partially re-inspected during 1910, the number of diseased colonies had been reduced to less than one-tenth the number found the previous year.

Dr. H. E. Barnard, State Food Commissioner, gave a talk on

The Bee-Keeper and the Pure Food Law

When I began pure food work 10 years ago, honey was one of the food products most heavily adulterated. Indeed, in New Hampshire at that time practically every extracted honey was wholly or in part made from glucose. Five years ago conditions were not as bad in Indiana, yet the year before the passage of the Pure Food Law, 6 out of the 10 samples of honey analyzed were adulterated. The Pure Food Law was passed in 1905, and since that time, although we have made a large number of analyses of honey, we have never found a sample which contained other sugars than those placed in the comb by the bee. The adulteration of extracted honey, so far as the retail trade is concerned, is practically a thing of the past. There is some evidence that invert sugars are being sold to concerns who manufacture baker's goods, but the evidence upon this point is not conclusive.

The adulteration of beeswax, one of the products of the bee-keeper which adds materially to his profits, has been very great, and to a certain extent still continues. Practically every sample of white wax examined in the laboratories proved to be paraffine, and 85 percent of the beeswax was the same material. With beeswax selling at 40 cents and paraffine at 10 cents, the cost to the consumer, of this fraud, small as it is, has, in the aggregate, been very great. But the damage to the bee-keeper has been far greater, for it has deprived him of a profitable market, and has discouraged him in his work.

The question is constantly asked, Is honey a better food than sugar? Now honey is for the most part a product of sugar—of different kinds of sugars; the chief ingredient, however, is invert sugar. Cane sugar, or sucrose, is necessarily inverted in the processes of indigestion. The feeding, then, of the sugar as already inverted relieves the body of that much work, and is, to that extent, a saving upon the demands of the glands which supply the enzymes to do the inversion. To this extent there is no question but that honey is a more desirable food than sugar. The fact that it contains small amounts of acids, and that it possesses a fragrance met with in no other substance, gives it additional value as a food, for it has been established that if the things we eat as food are appetizing and palatable, they are more readily and fully assimilated than foods of the same composition which lack these essentials.

H. E. BARNARD.

Mr. Mason Niblack, of Vincennes, who as a member of the Legislative Committee was largely responsible for the passage of Indiana's present foul brood law, gave a report of the work of his committee, and made many good suggestions as to the future policy of the Association. Mr. Niblack is a power among the law-makers, and the Association is certainly fortunate in having such a man within its ranks.

Lively discussions were brought out by each of the topics on the program, and were led by such men as F. B.

Cavanagh, Jay Smith, and Geo. W. Williams.

The Association voted in favor of making an effort to secure the next meeting of the National Bee-Keepers' Association at Indianapolis, and a committee was appointed to confer with the officers of that body.

The following officers were elected for the ensuing year: President, Geo. S. Demuth, of Peru; vice-president, J. Smith, of Vincennes; secretary, Geo. W. Williams, of Redkey; and treasurer, Walter S. Pouder, of Indianapolis.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Getting Bees Out of and Into Supers—Putting on Supers

1. What is the best way to get bees out of supers?

2. Is a hive supposed to sit level?

3. I bought 6 colonies the other day, 3 10-frame and 3 8-frame, with bees, and each colony full of honey, for $20 cash. Now which is the better way to proceed, to borrow an extractor and extract all the combs except about 2 in each colony, and then put the empty combs back in the brood-chamber for brood? Or, by putting on a super could I scrape the capped honey and let the bees carry it up into the super? What would you do so early in the year?

4. Last year I had one colony in a 10-frame hive, and I could not get the bees to work in the super all summer. I put baits in but that would not start them. They filled the brood-chamber full of honey. They were queenless for a while, and also weak. I caught a small swarm in a tree and put with them. I looked for a queen but couldn't find one, so I put in a frame of brood. The next time I looked there were several fine queen-cells. In about 3 days I looked again and the queen-cells were all torn out, so there must have been a queen. Can you tell me why they did not go up in the super?

5. Which is the better way to put supers on, above or below the one that is filled? COLORADO.

ANSWERS.—1. One way is to put a Porter bee-escape under the super, and next day the bees may generally be expected to be out of the super. Another way is to smoke some of the bees down, pile the supers up in a pile, and put a Miller tent-escape on top. If this be done in the forenoon, the bees will generally be out in the afternoon. Another way is to smoke most of the bees down, then set the super on end on top of the hive and let the rest of the bees come out of their own accord. This is a quicker way than either of the others, but it will do only when a good flow of honey is on; otherwise there will be a fine case of robbing. After the super is off, and the super set on end, the remainder of the bees may be smoked out; but there is some danger of flavoring the honey with so much smoke.

2. It should slant a little to the front, the front end being an inch or two lower than the back end. It should be level from side to side.

3. It is better not to extract any honey out of the brood-chamber. The bees need it there for their own use, and in any case you should not think of extracting before there is a good honey-flow, and that will hardly be before June. You will not need to scrape combs in the brood-chamber; the bees will have enough of it used out by the time they are ready to store in supers.

4. The likelihood is that there was not enough honey to make the bees store in supers. The right thing is for them to fill, first, all space in brood-chamber, and then put the surplus in the super; but if there is no more than the brood-chamber will hold you need expect none in the super.

5. Put the empty super under. In a heavy flow it is a good plan to put an empty one also on top. Toward the end of the season, or at any time when it seems doubtful that the bees can finish more than they already have on, put the empty super on top.

Swarming with Clipped Queens

I am a small bee-keeper, and keep bees for my own enjoyment and pastime, although I get fairly good returns per colony for the trouble and expense every season. How should I proceed with the process of clipping the queen's wings? I mean after the swarm has issued and the swarm has returned to the parent hive? As I am not there enough of the time to take care of them at the right time, what should I do with the queen? Should I find her several hours after the swarm has returned?

Should I return her to the colony? If so, what method would be the best? or would it be just as well not to give her back to the bees?

I run for comb honey only in the 4¼ sections, and am not working for increase as much as to keep colonies strong. I have tried dividing, and doubling up the weaker with others, but I find that the ones which I let swarm will produce more honey per colony than any other method I have tried, and this year I want to try the clipping process, if you will give your method after the swarm has issued, till you have disposed of the queen.

I have your bee-book, and have read several others, but have not as yet found the right kind of an explanation on this subject, of returning the queen. MINNESOTA.

If I understand you correctly, you want to know what you are to do when a swarm with a clipped queen has issued in your absence. Of course the queen is clipped before there is any danger of swarming. Then when a swarm issues in your absence you seem to expect to find the queen outside the hive. Don't count on anything of the kind. Not one time in 50 would you find her, even if you were there within an hour after swarming. Once in a great while you would find her on the ground with a bunch of bees about her. But you wouldn't know what hive she came from, as she might be closer to some other hive than to her own. Generally she returns to her own hive. But she may wander off and be lost, or she may enter some other hive and be killed. You can, however, have a queen-trap at the entrance, and when you find a queen in it you will know there has been a swarm. From what you say, it will perhaps suit you as well to remove or kill the queen and destroy all but one queen-cell. Then there ought to be no further swarming, and the whole force would be left undivided.

Marketing the Honey Crop

1. Would it not be a good thing if all the local bee-keepers' associations joined the National Association?

2. Then would it not be another good thing if the National Association would take the honey out of the hands of the commission houses in all the big cities, and sell it for the members of the Association?

3. Would it not be a good thing to talk over these things at a convention, instead of "chewing" the foul-brood question—the same thing hundreds of times over? I think the commission men make more mischief for the bee-keepers than does foul brood.

4. I think the farm bee-keepers, box and cracker-barrel bee-keepers, keep nurseries of foul brood. What do you think about it? We have plenty of this kind here in Iowa.

5. Last year I sent 12,000 pounds of honey to Chicago to different commission houses. The honey was nice looking, as nice as any honey that comes to the city of Chicago. I got different prices from them—15, 16, 17 and 18 cents. About a month ago (Jan. 20) I was in the city of Chicago, and I went into a grocery store near the commission house and asked the price of a section of honey. He charged me 25 cents. Who is to blame for this, the commission house or the grocer?

6. Would it not be enough for the grocer if he made, on every pound of honey, about 1 or 2 cents? That is what they make on a pound of butter. I am wondering if you were satisfied with the price you got for your honey, Dr. Miller? A couple of years ago I sent to those fellows 80 cases of honey, all fancy, and they wrote me a letter saying they got the honey all right, and that it was as nice a lot as they ever had in their warehouses. That is all I heard of the honey till the following May, when I got returns of 10, 11, and 12 cents per pound. He said he was sorry he could not get more, but he couldn't sell that honey, and he was afraid it would candy if he tried to keep it over the season, so he had to let it go at those prices. IOWA.

ANSWERS.—1. Yes, and many of such associations are falling into that practise.

2. Yes, something of that kind was outlined in the President's Address at Albany, and there is no telling whereunto it may grow.

3. Yes, such things are proper subjects for consideration, although I can not agree with you that commission men are worse than foul brood, for I've had both. If foul brood attacks you, you are bound to suffer more or less, but no matter how many commission men there are, you are not obliged to have anything to do with them unless you want to. I would rather get all the money for my honey without dividing with the commission men, but sometimes I have been very glad to have them help me out. So I count them an advantage when I need them, and they can do me no harm when I don't need them. Of course, there may be dishonest commission men, just as there may be dishonest men in all ranks. But we are not obliged to suffer from the dishonest ones.

4. Yes, there ought to be a foul-brood law that would help clean out all but hives with movable frames.

5. The probability is that the grocer got the larger part of that margin.

6. No, I don't suppose 1 or 2 cents a pound would allow a Chicago grocer to make a living. I am wondering a little if you may not be mistaken about Chicago grocers making only 1 or 2 cents on a pound of butter. In Marengo they make 5, and Marengo is right in the heart of the butter-making region, where the people know just what the price is at the factories. It must be that rents and other expenses are a good deal highher in Chicago than in Marengo, and so a larger margin should be allowed there. Possibly you might do a good deal better to work up the market in your own locality. Bee-keepers are somewhat inclined to pile honey into the city markets when in some cases they could do better right at home. Considering that I have used the commission men as a convenience for my own benefit, I think they have treated me pretty well.

Beginners' Questions

1. Is there any advantage in painting the hives inside in case of moisture? Would it be in any way more healthy for the bees?

2. I have 12 colonies and I want to increase them. I have intended to Italianize my bees, which are the common blacks, but as we are beginners—for we bought the colonies last fall,—we want to know if it would be better to wait until next year to introduce Italian queens.

3. Our cellar is a large one, dry, and has a ventilator connecting with the stove, up to the chimney. The temperature varies from 36 degrees in the coldest weather, but most of the time from 38 to 40. Will such cellar winter our bees all right?

4. At such a temperature is it necessary to have the cover on every hive? So far, we have adopted the same system as the bee-keeper we bought our bees of, and that is, every hive is set inside of a wooden frame having one opening on each side closed up with a wire screen. The way we stand the hives is about 2½ inches over the platform on which they stand. That bee-keeper kept his bees like that for about 12 years. However, is not that way contrary to the right system? Would it be necessary to make a fire in our cellar to keep a regular 38 to 40 degrees temperature?

5. After queen-cells are taken out of a hive, do we have to use them at once for requeening? If not, how can we take care of the sealed queen-cells?

6. Is it just as profitable, and safer, to let the bees swarm, or to increase our colonies by the nucleus method? We thought the first year we could come out better with natural swarms.

7. Is it not better to change all black combs in every hive for full sheets of foundation? If so, when is the right time to make that change? CANADA.

ANSWERS.—1. No, better leave the inside unpainted.

2. You will probably do well to wait till June before Italianizing.

3. It is better that the cellar should be kept as nearly as possible at 45 degrees. So your cellar seems pretty cold. There is, however, quite a difference in thermometers, and your thermometer may not be true, marking the temperature at 40 or less when it is really 45. You can likely tell somethng about that by comparing different thermometers.

4. There is nothing that succeeds like success, and if your neighbor has been uniformly successful in wintering, it will be pretty safe to follow his example. I'm not sure that I see the object of having the hive inside of a frame, with wire-screen, unless it be to keep out mice. If your thermometer is reliable, and the cellar is much of the time below 45, it would be well to heat it up to 45.

5. Use them just as soon as possible. They may be kept a few hours away from the bees if kept at the right temperature, but they are better off to be in the care of the bees.

6. There is some difference of opinion as to renewing combs. Across the ocean some advise that they be not allowed to be over 5 years old. I think few bee-keepers in this country would agree with that view. In my practise I have never melted a comb merely because it was old and have never seen any trouble from the practise.

Getting Increase — Weak Colonies—Early Feeding

1. If you had only 2 colonies of bees and wantetd to increase to 5 or 6 more, and keep within that number, and work for the best crop of honey at the same time, how would you do it?

2. If you should find your bees weak in numbers in the spring, what would be the best way to strengthen them?

3. Can I use 2 hives or brood-chambers and have honey stored in the top one? If so, how would you arrange it?

4. My hives are covered with grass and leaves for winter. About what time should I uncover them?

5. My bees are out on all nice days and will take up lots of sugar syrup. Do they store it in the hives?

6. Is there anything to be gained by feeding bees until honey-gathering time, or during February and March?

MISSOURI.

ANSWERS.—1. If I get your idea, you want to increase 2 colonies to 5 or 6 more, or 7 or 8 colonies in all, and then run them for honey without increase. But that "work for the best crop of honey at the same time" sounds as if you wanted to get the best crop of honey that can be got, and at the same time make the increase. Frankly, I don't know of any way by which you can do that. So often it is the case that beginners have an idea there is some secret by which increase may be made without at all interfering with the honey crop. That can only happen in some place where there is a big flow late in the season, besides the earlier flow, so that when a colony swarms both the swarm and the mother colony can store a good lot of surplus. Where I live, and most likely where you live, more honey can be obtained if the bees never take it into their heads to swarm at all.

If you are a beginner, perhaps natural swarming will answer for your increase. As you probably want to increase pretty rapidly at first, when a colony swarms, leave the old colony on the old stand and as each swarm issues set it on a new stand. In that way you will likely have 6 colonies at the end of the first season, and likely not so very much honey. It would be nothing so very strange, if the season should be good, if you should have your 7 or 8 colonies at the end of the first season. By the time of the second year you will likely be so well informed upon the subject that you can tell better than I what will be your best way to get crops of honey without increase. I say, however, that one way is to kill the queen and return the swarm when a colony swarms, then a week later begin listening for the piping of the young queen by placing your ear against the hive. Likely you may hear her about 8 days after swarming. Whenever you do hear her, go to the hive the next morning and destroy *all* the queen-cells. That will leave only the one queen in the hive, and there will be no more swarming. It may be that the bees may not think of sending out a second swarm, although that will be very unlikely. In that case you will hear no piping, and if you will look in the hive after the 9th or tenth day you will likely find the cells torn down by the bees. You may then know that they have no thought of further swarming.

2. If I found a colony very weak in early spring, I wouldn't try to strengthen it. I would unite it with a stronger colony, or else I would wait till other colonies were so strong that they had at least 6 frames of brood each, and then I would swap its frame of brood for one from another colony. The frame taken from the weak colony would likely not be very well filled with sealed brood, and the one given should be well filled. Afterward more brood could be added, when the sealed brood had pretty well hatched out.

3. Yes, put a queen-excluder between the two stories. Or, you can do without the excluder if you have sections in the second story.

4. It will be well to leave it on till the weather is quite warm, or until the harvest begins.

5. Yes, if they get more syrup than they use for their daily needs, they will store it in their combs.

6. Yes, there is big gain if there is danger of starving; but if they have abundance of stores let them alone. An exception to this takes place in some parts like Colorado, where a dearth lasts so long early in the season that breeding stops altogether. In such a case feed, even if abundance of honey is in the hive. But I don't think you will meet such a condition.

Transferring Bees

1. Suppose I should transfer my bees in spring when the cherry trees are in full bloom, *a la* Heddon, by shaking them in front of a new hive, but instead of leaving the old hive next to the new hive, have the entrance in another direction for 3 weeks, and then shake again and take the old hive away after shaking. How would it work to put the old hive, after the first shaking, on top of the new hive with an excluder between, and have the upper hive-entrance closed tight, so that when the brood from the upper hive is better, the young bees are bound to go down to the new hive? After the brood in the upper hive (say in 3 weeks) is hatched, I would remove the upper hive and put a super in its place, and take the hive away. Now I don't know whether I should close the entrance of the upper hive entirely, or whether I should leave room for one bee to pass out and have the upper hive free in another direction. Before I would take the upper hive down, I would slip a bee-escape board between the 2 hives so all the bees could go down, but not back again. The queen or cells of the upper hive I would find and would use them afterward. This would be something like the Demaree plan, but the Demaree plan doesn't say whether the entrance in the upper hive should be closed or not, which is what I would like to know.

2. Now Suppose I succeeded in transferring the bees into the new hives, and after a while (say when white clover is in full bloom), I would like to increase, would it be safe to take the frames with brood, and the queen and adhering bees, and put them into a new hive, filling both with frames of foundation, and put the hive with the queen on a new stand, and after 8 days change the hives so that the weaker one would get the field-bees from the old hive so it can get stronger? Do you think this would decrease the amount of comb honey for the season? Or do you think it would be more profitable to wait for a natural

swarm for increase? Or do you think it would be still better to prevent swarming for this season? I want a good honey crop.

3. This is my first year in bee-keeping, and last summer was a poor, dry one, so I was glad to put my colonies into winter quarters with full supplies. I fed, last November, about 20 pounds of syrup to each colony so as to be sure to winter them safely. I have them in a dry, underground, dark cellar, in double-walled hives, with a cushion on top, but no shavings between the single hive and the hood. The cellar is very cold, temperature about 50 degrees, and sometimes down to 22, but it has plenty of ventilation.

WISCONSIN.

ANSWERS.—1. Your plan will work, and it does not matter greatly whether you leave a small entrance above or not. If you do leave one, it will be well to let it face the same way as the entrance below, for then it will trouble the bees less about finding the lower entrance when the upper hive is taken away. The likelihood is that any queens or cells obtained in this way will be poor, for conditions are not right for rearing good queens. In the Demaree plan, no entrance is allowed above.

2. If you can in some way coax your bees not to think of swarming at all, you will get more honey than by having either natural or artificial increase. But that is not an easy thing to do. It is likely that you will get as much or more honey by the plan you propose than by natural swarming.

3. You are working wisely against mice and otherwise managing well, only I am afraid your bees will come out in bad shape in the spring because the cellar is too cold. The bees must consume so much honey to keep up sufficient heat that their intestines will be overloaded long before it is time for them to be taken out of the cellar. To give them a fair chance, the cellar should in some way be heated up to about 45.

Swarming—Amount of Stores for Winter—Shallow Extracting Frames, Etc.

1. I would like to have as few swarms as possible. What way would be the least labor?

2. Will it check swarming to remove the old hive and put the new colony in its place?

3. If I take the supers from the parent colony and put them on the new swarm, will the bees that are in the field keep on working in the super?

4. Will not the queen go with them?

5. Will the bees go through winter with as small amount of honey as 15 or 20 pounds, when in the cellar?

6. The man I bought my bees from said they were Italians, but I'm not sure they are. Some of them look pretty brown, and have two or three bands, and some are very dark?

7. I have thought of buying an extractor. Where do you think I could get it cheapest? How large do you think one needs for about 25 or 50 colonies?

8. How do the shallow extracting frames work when running for extracted honey?

9. What is the best way to fasten foundation to the top-bars of extracting frames?

10. I have "A B C & X Y Z of Bee Culture." Would it be well to have more books of that kind?

11. Would it be any help to me, living in Northern Minnesota, to become a member of a bee-keepers' association? If so, which one is the best? Are there any in Minnesota?

MINNESOTA.

ANSWERS.—1. Perhaps the easiest way to have as few swarms as possible is to run for extracted honey, and then, just before there is danger of swarming, use the Demaree plan. Put in the second story over an excluder all the brood-combs but one, and in the first story, under the excluder, put the queen and one of the combs with least brood, filling up both stories with empty combs or frames of foundation.

2. Yes, that will do much toward preventing a second swarm. A surer plan is to put the swarm on the old stand with the old hive close beside it, and a week later move the old hive to a new stand.

3. Hardly that, for the field-bees are not the ones that work in the super, but practically so, for the field-bees will all go to the old stand, and the honey will be stored in the supers there.

3. There is danger of the queen going up if the supers are put on immediately after the swarm is hived, unless a queen-excluder is used. In the absence of an excluder, do not put the supers on for about 2 days, and in that time the queen will have made a start below and will not be likely to go into the super.

5. In some cases they would, but it would not be safe to risk it.

6. In a colony of pure Italians, all the workers should have 3 yellow bands, although the band toward the head is not very distinct.

7. I'm not sure whether there is any difference in prices. Consult the catalogue of the dealers. A 2-frame extractor ought to answer.

8. Some use them altogether, and they are probably a good bit better than the deeper frames, unless one wants to use them for brood-frames too.

9. As good a way as any, and a good deal the easiest way, is to use the wedges that are now generally sent out with the frames. Slip the foundation into the larger saw-kerf, and then crowd the wedge-strip into the smaller kerf. In some places, however, there has been complaint that the foundation was not held securely in this way, especially toward the South. In that case, run melted wax along the joint.

10. Yes, even after you have several of the best books, if a new one appears, even if quite inferior to the others, it may contain some hint that is worth more than the cost of the book. As a second book you will do well to get "Forty Years Among the Bees."

11. By all means every Minnesota bee-keeper should join the Minnesota State Bee-Keepers' Association. If you become a member of that, I think it makes you also a member of the National Bee-Keepers' Association. Write H. V. Poore, Bird Island, Minn.

A Beginner's Questions

1. How is salt fed to bees?

2. How do you water bees in spring?

3. Will combs that have brood in them spoil honey in any way when it is extracted?

4. When transferring bees will it hurt to have the old hive wrongside up until the brood hatches.

5. Will brood-frames without full sheets of foundation be strong enough for the extractor?

6. Is it necessary to wire full sheets in shallow extracting frames?

7. Will bees clean out combs that have had moth in them the previous year?

8. I have some sections of honey (my first) that have what looks like sawdust in them, and very small holes in the comb in different places, but no sign of moth-worms or galleries in them, so far as I can see. What is it? Robber-bees were at them some.

9. Wouldn't this plan work for transferring bees? When the bees in box-hives swarm, hive them in a hive over the old box, and catch the young queen from the old colony with a queen-trap when she comes out to mate, and kill her and put a queen-excluder between.

10. Could I safely introduce a new queen to a swarm hanging to a limb, by killing their queen and placing the new queen on the cluster of bees?

11. Will late fall feeding ever spoil the bees' cluster-nest?

12. Will it be safe to winter bees on combs with nearly all cells partly full of honey, but little or no capped honey?

13. I see in some of my brood-frames where I wired with full sheets, the bees put honey in the row of cells that were built over the wires. Is this because I did not get the wire deep enough in the foundation?

14. Last spring my bees gathered pollen from maple trees (not sugar maple) as soon as it was warm enough for them to fly. Will they need to be fed flour?

KANSAS.

ANSWERS.—1. It is not often that salt is fed to bees. Some have thought it desirable, because in the spring bees are found where salty moisture is to be obtained. Others think the bees care only for the moisture, and prefer a place not because the water is salty, but because it is warmer than in other places. The easiest way to give salt to bees is to give it in their drinking water. I have tried salt and fresh water side by side, and never could make out that the bees had any preference.

2. I get from grocers cork-chips that come as packing in kegs of grapes in winter. I put water in a tub, pail, or half-barrel, and then put on enough cork-chips so that the water will barely come up through the chips for the bees to get at. Once every week or two I pour in fresh water to fill up what has evaporated or has been taken by the bees. No matter if bees are on the cork-chips, if the water is poured on them they will come up smiling. This is by far the best arrangement I have ever tried. Short sticks of firewood put in the water does pretty well.

3. Some think it darkens the color of very light honey; but others think it makes no difference. Anyhow, the difference cannot be much.

4. No.

5. Yes, but they must be carefully handled when they are new. Extract one side partly, reverse and extract the second side, and then finish the first side. Even then you may have a breakdown.

6. You can get along without the wiring if you are careful enough.

7. Yes, and make good work of it if the combs are not too far gone.

8. What looks like sawdust is probably the chippings of comb left by the robbers, and there may also be some grains of honey if the honey was candied.

9. If I understand the plan correctly, I don't believe it would be satisfactory.

10. It might succeed sometimes.

11. Yes.

12. Not very safe, but it might succeed.

13. I suspect you mean that brood is in the other cells, and honey in the cells over the wires. I don't know, but think it might be because the wire is not deep enough.

14. No, with plenty of soft, or red, maples, they will need no substitute for pollen.

Management for Increase—Italian Bees

1. I have only one colony of bees, but I got 20 pounds of honey from them last year, which I call, for the amount of bees, and in this vicinity, fairly well. I am thinking of buying 5 more colonies. Would you advise me to divide them in the

spring, or let them swarm the natural way?

2. Would I get any honey next fall by doing so?

3. Which kind of bees gather the most honey?

4. My bees are Italians. Are they considered the best for honey in the long run? Missouri.

Answers.—1. Until you have more experience it may be as well to trust to natural swarming. But as some of them may be slow about swarming, you might at least divide one colony for the sake of the practise.

2. I don't know anything about your fall flow, but whether you have a good fall flow or not, if it is a good year you ought to get a good yield from the summer flow, provided you manage the natural swarms properly. When a swarm issues, hive it and set it on the old stand. That will throw all the flying force into the swarm, and with such a strong force the swarm ought to store a nice crop, if there is anything to store.

3. Hard to say. Probably hybrids. But it is not considered good practise to try to continue hybrids. However, if you try to keep pure Italians you will likely have hybrids enough.

4. Yes, the majority of bee-keepers try to keep Italians as nearly pure as they can.

Plain and Bee-Way Sections

Are plain sections as good for shipping purposes as the bee-way sections? California.

Answer.—In the plain sections the sealing comes out flush with the surface of the wood, so there is a little more danger of breakage in putting the sections in the shipping-case, and especially in taking them out.

Early Spring Feeding of Bees

When is the proper time to feed in order to stimulate breeding, so as to have lots of bees early enough, but not too early, in this latitude (northern New Jersey)? What feeder would you recommend? How is the Alexander feeder? New Jersey.

Answer.—There are a few localities in which there is such a dearth between the first yield and the white-honey harvest that brood-rearing ceases. In such a locality it pays to feed so as to keep up brood-rearing. My locality is not one of them, and I do not think it wise to feed, except to make sure that the bees have abundant stores. I suppose your locality is like mine, and the wisest thing is to see that your bees have abundance, and then let them severely alone. You may do harm by meddling.

Feeding Bees During Nectar Dearth

From about July 10th to Sept. 1st, there is not much here for the bees to get, and sometimes not anything. The last of September and the first of October we have a good honey-flow. Now I would like to know the cheapest way to feed during this dearth so as to have the bees ready for the fall flow. Is it best to put 1, 2 or 3 of water to 1 of sugar? Do you know anything that would do, and that is cheaper than granulated sugar. This is for feeding in summer, and not for winter. North Carolina.

Answer.—You will probably find little economy in feeding anything else than granulated sugar, unless you have some dark honey. Like enough it will not be necessary to feed at all, for even if the bees gather very little it takes very little to keep up breeding. Doubtful if it makes any difference whether you feed 1, 2, or 3 parts of water to 1 of sugar, only if you have 3 parts it makes more to evaporate.

Control of Queen Fertilization —Cyprians

1. On page 193 (1910), American Bee Journal, in regard to "Control of Queen-Fertilization," has the plan been worked out? Was it a success or failure? If successful, what is the plan?

2. Have you had any personal experience with Cyprians? If so, describe the hustling qualities, comb-cappings, comparative size of bee, color (full), longevity, and disposition of the pure bee. New Mexico.

Answers.—1. (See another page for reply to this question by Mr. C. O. Smith.—Editor.)

2. I never had but one colony of Cyprians, and as that was several years ago I can only tell about them as I remember them. In industry, comb-capping, and size, they did not especially differ from Italians, if at all. I do not recall whether they differed in color, and I know nothing about their longevity. They have the reputation of being very cross, but did not distinguish themselves in that way. The most notable thing about them was that they would start the largest number of queen-cells of all the bees I ever knew.

Italianizing Bees

1. Which of the Italian strain of bees do you think are the best honey-gatherers—3-band, golden, or red clover?

2. All of my bees are black or hybrids, and I wish to rear some queens. How can I get them mated purely? Can I rear some pure drones and close all of the hybrids colonies with excluders, and let only pure drones be at liberty?

3. When a hybrid or black swarm issues can I catch the hybrid queen and drop in an Italian without introducing her in a cage?

4. What is the best time of the year to Italianize? Virginia.

Answers.—1. You may get a queen in either class that will be good, but on the whole the 3-banders are as dependable as any. The red-clover bees can hardly be said to be a class by themselves, for in any class of bees you are likely to find here and there those that will work on red clover. The trouble is that if you get a queen of that kind you are not at all sure that her royal progeny will be like her.

2. It is not at all certain that you can make sure of pure fertilization in any way. Your plan may work if there are no other drones within 2 miles.

3. That would probably work sometimes, but perhaps oftener fail.

4. Other things being equal, there is no better time than toward the close of harvest, but if I had poor bees I wouldn't want to wait till then to get in better stock.

Why Did They Die?—Drones in Winter

1. I purchased an Italian queen last September and introduced her to one of my best young colonies, and in a few weeks her bees began to show up fine. In October a young black queen was carried out of the hive, and on Nov. 6 a black queen came out of the hive late in the evening and flew away, and the yellow bees seemed to be increasing all the time. They lived until the last of February and then died leaving an abundance of stores. What was the cause?

2. What is the cause of drones being in the hive in February? They fly out every warm day. The colonies are extra-strong. Illinois.

Answers.—1. It is just possible that there is some mistake about those 2 black queens. At any rate, their presence or absence does not help out in answering the question as to what caused the death of the bees. Without any more information I can not even make a reasonable guess. It is possible that diarrhea may have been the trouble, in which case the frames and combs would be badly daubed. It is possible, also, that the colony may have become queenless somewhat early, and that then the numbers rapidly dwindled away, leaving too few bees to keep alive. If the colony became queenless early in October, there might be the two young queens you saw, which being reared so much out of season could easily be so dark that you would call them black, the queen you saw Nov. 6 being lost on her wedding-flight. Even then, one would hardly expect the colony to peter out so soon; but I can't make any better guess

2. It is to be feared that the colony is queenless. A queenless colony will retain its drones through the winter, although sometimes a queen-right colony will have drones in winter, but only a few.

American Foul Brood

If a colony that has a few cells of American foul brood in it swarms, and that swarm is put into a new hive containing frames with full sheets of foundation, will it be in danger of having American foul brood later on? or is it necessary to use something like the McEvoy treatment? Michigan.

Answer.—Yes, it is in danger; but that "later on" must not be carried too far. If the disease does not appear in the first batch of brood, you need not expect it "later on." But if there are, as you say, only a few diseased cells in the parent colony, the probability is that the swarm will be healthy.

Spring Management of Bees—Yellow Sweet Clover—Feeding Bees

1. I have 50 colonies of bees, 100 acres of alsike clover and 200 acres of white clover, and some locust and fruit-trees within a mile of my place. Will that be pasture enough?

2. We have some warm days in February, and I saw drones flying about. Is that common at this season of the year?

3. My bees have plenty of stores. How soon would you put on supers?

4. My apiary is in northern Kentucky. I have yellow sweet clover to sow. How soon would you sow it?

5. I have some waste honey, and I am feeding the bees the honey outdoors on some wide boards. Is that as good as feeding in feeders?

6. Will spring feeding forward rearing young brood?

7. There are very few bees in my neighborhood. Do you think it best for me to put them in out-apiaries? Kentucky.

Answers.—1. Yes, unless there are other bees to divide the spoils with yours.

2. No, and there is some danger that a colony has not the right kind of a queen if many drones fly so early.

3. No matter how full of stores a hive may be, no need to put on supers until the harvest is on. If your first surplus is from white clover, no need to put on supers till after you see white clover in bloom. Another way is to put on supers when you see the bees putting bits of white wax along the tops of the brood-combs.

4. Sow it as early as the farmers in your region sow the earliest grasses or grains.

5. Fully as good or better, if your neigh-

bors' bees do not get too much of it.

6. Doubtful. If abundance of stores be in the hive, and if the bees are gathering at least a little every good day, you can not hasten matters by feeding.

7. Certainly it will be well to enlarge with out-apiaries *after* you get so many bees that they will be cramped in the home apiary. Just how many that will be no one can tell you with certainty, and it will be hard to find out. Likely 100 or more will be all right in the home apiary.

REPORTS AND EXPERIENCES

Transferring Bees—(See 1st page.)

Our first honey-plants are now, or soon will be, in full bloom, and transferring bees will be in order. There are many methods of transferring from box-hives and log-gums into modern hives, but this one is the most commonly used. Usually this method is considered messy, and for many reasons much dreaded by bee-keepers for increase, or those just beginning bee-keeping with a few colonies in box-hives to be transferred. But the job can soon be accomplished, and, after commencing it, it is much more delightful and interesting.

It is always best to use wired frames containing full sheets of foundation, or ready-built combs, one of which in each hive should contain some honey and tiny bees, or the transferred bees may become discouraged and swarm out, and may be lost. And, too, it helps them out so much at this critical time. But if a little honey is coming in, starters may be used in the frames with one or more containing transferred comb from the old box-hive.

I will explain and illustrate this method of transferring bees from box-hives with a portion of their comb with them.

A new modern hive should be in readiness for each colony to be transferred; a pail of water, a towel, an axe, a long-bladed knife, a ball of cotton wrapping-cord, a brush, and a board 1 by 12 by 36 inches long.

Now, with the veil well placed on, and the smoker in good order, we approach the first colony to be transferred. Turning the hive down just a little, we send up through the combs several good whiffs of smoke, and lay it down on the ground with the side the most comb is attached next to the ground, and so the bottom of the old hive will be within 12 or 16 inches of its old stand.

Now place the next hive on the ground, directly under where the old one stood, so it will be easy for the flying bees to find, and level the earth up evenly with the top of the alighting-board of the new hive, so the crawling bees can easily go in as they are brushed off the pieces of old comb or jerked off the pieces of the old hive.

Now with the axe, split the old hive open (see Fig. 1), and pry it apart; then with the hands spread the old hive out on the ground (see Fig. 2). Then proceed to remove the pieces of comb and brush the bees down in front of the new hive (see Fig. 3), looking carefully over each piece for the queen, and if she is found early, land her safely in the hive. All the best pieces of worker-comb containing young bees in all stages of development, and some honey, should be laid on the board for transferring.

When all the comb has been removed, the bees that may have clustered or are crawling about on the pieces of the old hive, should be jarred off in front of the new hive (see Fig. 4).

Now proceed to fit together the straightest pieces of comb containing brood and honey (see Fig. 5). Place on top of this comb an empty frame (one or more should be left out of each new hive for this purpose), cut around on the inside of the frame (see Fig. 6), and remove the pieces that are cut loose, press the frame down around the comb, and slide it to one end of the board and wrap the cord around it from the bottom-bar to the top-bar every 2 or 4 inches, until about one-third of the frame has been wrapped, then slide the hand under the comb easily and turn it up on its edge and finish wrapping it (see Fig. 7). If possible get pieces of comb containing brood and honey large enough to fill a frame, as in Fig. 7, and it is well that all other pieces of comb should be fit in right edge up, so that when it is hung in be new hive it will not be bottom-edge up. If possible, have a small rim of honey about the top-bar, and the brood arranged as in Fig. 7. It is often the case that a box-hive has no suitable comb for transferring, while others will have enough for 2 or more frames, and one or more should be reserved.

Now set the transferred comb in the new hive (see Fig. 8), with only one frame between it and the side of the hive, place the cover on, and so on until all is transferred. During the operation keep the honey washed from your hands, and dry them with the towel occasionally, and you will find the job not so messy.

Fig. 9 shows a portion of a box-hive apiary transferred this way. It is done right in the open air around the hives, and the honey and pieces of comb laid about in the pieces of box-hives so the bees will soon take up what may be oozing out of the comb or wasting on the ground. Soon the bees have removed all the honey from the old combs, which are in fine shape to render into wax.

The transferred bees should be examined in 2 or 3 days, and if they are building comb briskly, separate two of the best built combs and insert a frame between them, and so on until they have completed a set of combs. Then supers can be added.

I have transferred many colonies by this method, and at one time in one yard 147 colonies. A few robber-bees were killed, but no serious robbing was done, even at times when there was no honey in the field. If bees get to flying around you, so thickly, and sticking on the honey so as to bother, move to the other side of the apiary.

This seems like a long, tedious method of transferring bees, but after the start is made, the work can be done very rapidly.
J. J. Wilder.

Cordele, Ga., March 23.

Bee-Keeping in Missouri

The Northern States seem to be looking to Missouri, as I have had several communications as to what our State is for bee-keeping. I also recently had a most delightful visit from a man living near Cadilac, Mich., who has had a large experience in bee-keeping, both in the United States and in Canada. He was here looking for bees.

I have just returned from the State capital where I had been before one of our legislators to secure our regular appropriation for our bee-inspection work in Missouri for the next two years. We have a promise of a favorable report from the Appropriation Committee, for what we asked.

I am trying to get all information possible as to the bee-keeping interests in this State. While at the capital I secured what information our Bureau of Labor Statistics could give, and while they have done as good work gathering statistics on bee-keeping as they could under the circumstances they have to work under, yet they do not give anywhere near what our industry merits, or what it really is. For instance, they give the amount of honey from some counties I am well acquainted with as 19,830 pounds, and a county right next to that I am sure secures fully as much as the first mentioned, they give only 11,600 pounds. The last county referred to has a splendid local town to market honey, while the first has not, and so with a number of other counties. Another was named as producing 30,628 pounds, while another county right by, only 6,548 is given. The first has scarcely any local market but ships to the other counties' market, while the other has one bee-keeper that I am sure secures more honey than his whole county has credit for, so that the local markets of a county have a great deal to do in reports of the honey obtained in that couty.

I learned that in gathering the statistics on honey, the office sends reports to be filled out, to the express offices and freight offices in the State. I do not think this gives one-half the amount of honey produced in the State.

In my talk with the man I mentioned as visiting me, we discussed methods to secure good crops of honey. He practices stimulating his bees in spring before the expected honey-flow is due, and that has been my practice for years. While he uses combs of honey, and uncaps as needed (undoubtedly the best, if one has them), I have usually had to feed syrup to do the stimulating. It is not my intention to try to advise any of the "big guns" how to manage their bees, yet I feel that I am competent to give some advice to many, at least I have had better success with spring stimulating than when I did not do so, and as I usually have much better results than most around me that do not do that, I am led to think the method has merit.

Missouri did not secure a very large crop of honey last season, as the early part started off with unusual good prospects, but a very cold spell prevailed later, which was most disastrous with many colonies of bees, and then it turned to rain for a good while, so that the early crop of white clover was unsecured in many places, and some of the bees did not recover enough to secure much of a fall crop. I know some will say early stimulating was a failure that time, and it was, but this is the first time in my experience that such a season has obtained, and it may not occur again for many years.
J. W. Rouse.

Mexico, Mo., Feb. 23.

Bee-Keeping in Mexico

I have had large experience in handling bees in the United States, principally in Arizona; have traveled over Mexico from north to south and from east to west, and investigated it as a bee-country.

After having made 15 trips down there, examining the bees each time and the flowers of the country, I am thoroughly convinced that there are many locations far surpassing the United States as a bee-country. I have examined the bees each time that I was there, and found them gathering pollen and honey rapidly and of good quality. On my last trip, about the 24th of February, which was probably the coldest day of this winter, being down to 65 between showers, I examined the bees and found them gathering pollen and honey fast, with queen-cells capped over ready for swarming. Trees and shrubs of many varieties were in bloom just as I had found it at other times of the year. According to the statements of the owners they had taken more honey from their bees throughout the year than I have ever been able to get in the United States. What surprised me most was in opening the hives when the weather was the most unfavorable of any time that could have been selected, I lifted them frame by frame without smoker, veil or gloves, and the bees showed no signs of resenting it,—even stood in front of the hives, and great numbers were awaiting me to get out of the way so that they could go in. They were well-marked three-banded, leather-colored Italians. I never saw such gentle bees before.

B. A. Hadsell.

Bees Wintered Well

Bees have wintered well here. I had a few wobble out in the warm winter, but my loss is only 5 colonies. So far I have 160 colonies. Last year was a year by itself. We got no surplus honey until August. The first alfalfa had no nectar, but the sweet clover and second crop alfalfa did pretty well, and the bees stored honey until October. So they all went into winter quarters pretty well supplied in stores; they have had flights every day all winter, except about two weeks. We have good prospects for an early spring. We depend mainly upon alfalfa and sweet clover for honey, but we have a little sage, Rocky Mountain bee-plant, and a great deal of fruit-bloom.

E. C. Wright.

Montrose, Colo., March 17.

Do Bees Carry Eggs?

I have noticed this question under discussion for some time, and gave it only a casual glance for the reason that if the bees carry eggs to a more convenient place for the construction of a queen-cell according to their notion, why, good and well. If they do not, good and well, also. It is not a matter of dollars and cents to me in either case, so far as I know, for if my bees become queenless and have *no* egg from which they can rear a queen they die. They cannot go, as I know of, to some other hive and steal an egg,—at least, I have never caught my bees performing such tricks.

This question was brought to my attention in the March issue of the American Bee Journal in the editorial page, in which Mr. W. Abram, of Australia, says that the egg is glued to the bottom of the cell, which is true, and when once removed the bees have no way of sticking it back again into any other cell. Just here I wonder if Mr. Abram ever studied adhesion, or capillary attraction, or run across anything like that in his physics while at school! The question is easily settled, for a very small amount of honey or chyle at the base of the cell will hold the egg very securely, or little larva, as to that matter.

I am very much of the opinion that the bees often move either the egg or the larva to a more convenient place, for time and again have I seen evidence to this effect in rearing queens. All practical bee-keepers who have ever reared queens know full well how bees love to construct cells along the rough or jagged edges of combs, or at the bottom of the frame. It is at these places that I have evidence in great abundance to believe that the bees move either the egg or the larva, and preferably the latter.

On the 15th of this month (March) I dequeened 13 colonies of bees to construct queen-cells for me, and went back the 17th—48 hours later—to graft the cells started by the bees. There were two instances, or 2 hives, that showed that larvæ had been moved. One was at the bottom of a frame, the other at the jagged end of a frame of comb. In both cases the queen had left off laying about one inch between the egg radius and where the cells were located. In each case there were nearly a dozen cells started very close together. As they were one inch from the egg-line I did not expect to find any cell with a larva in it, but to my surprise I found one cell with a tiny larva, and well fed; all the rest were empty. This was hive No. 1.

Hive No. 2 was just a little more advanced with its cells, and the bottom of the comb above the bottom-bar of the frame, as the bees never quite built to the bottom-bar,—the queen stopped off laying about one inch above the bottom of the comb on both sides. I did not expect to find a thing in these stumps of cells, but to my astonishment I found a larva in one that was just about a day old, and well fed. I am very much of the opinion that the bees meant to rear two other cells that were fed, but had no egg or larva in them. I grafted the cells and forgot about the matter.

Now these cells that were fed would hold either Mr. Abram's egg, or larva, for they surely very cleverly held the larva that I put in them. I have seen this many times in my queen-rearing experience, but never as much as gave it a passing notice. The queen could have laid these eggs just where I found them, but hardly just at this time when they have no notion of swarming.

It is very evident to me that either the queen lays eggs in the queen-cells, or that the bees move them there, for last spring I found dozens of them in queen-cells during a swarming epidemic that I had never had the like in ten years.

T. P. Robinson.

Bartlett, Tex., March 19.

Over 50 Years a Bee-Keeper

I took the American Bee Journal in 1861, when Mr. Wagner was the Editor, and from it I got the Italian bee-fever, and ordered a queen from Rev. L. L. Langstroth to the tune of $10.00, which proved a good investment. I have added new blood occasionally since. Last year I got over a ton of 4¼ section honey—mostly white—from 17 colonies, spring count. They are in 10-frame old-style Langstroth hives, several of which weighed 80 pounds without covers when I put them in the cellar, about the middle of Nov., 1910. They are not doing so well as last winter—more dead outside of the hives, owing, I think, to the number in the room.

A. K. Honsinger.

St. Albans. Vt., March 4.

Bees Did Fairly Well Last Season

I have 20 colonies of bees, and they are all in a thriving condition. I have not lost a colony this winter; it has been a very mild one with the exception of a few real cold snaps.

My bees did fairly well last year. I sold almost all of my honey for 20 cents per pound. If this is a good year, I am expecting my bees to do a good business. I think the American Bee Journal is a fine paper. It has been a great help to me. I don't see how bee-keeping can be done without it. J. K. Barron.

Springfield, Ark., March 2.

Controlling Mating of Queens.—We have received the following from Mr. C. O. Smith, which will answer a question asked by "New Mexico," in "Dr. Miller's Answers:"

A circular letter which I sent out in February met with such a hearty response from my sister and brother bee-keepers, that I have decided to execute the plans mentioned therein; and which I have formulated for the purpose of improving the honey-bee. Although I asked for only a short answer, nearly all of the replies were filled with helpful hints, sound advice, and good wishes. Many of the writers expressed a willingness to assist me in my efforts, by offering to take one or more queens, at cost, to try out along side of their own stock. As this will be a far better test than to try them all in one locality, I feel very grateful to them for their generosity.

I have spent 3 years looking for a superior strain of Italians, from which to select a breeder, for the purpose of building up my apiaries to a high degree of efficiency. In the spring of 1010 I found a queen that had all the qualities I was seeking; but I was unable to buy her, as her owner, Mr. Peter Duff, refused to sell her at any price. But he has generously offered, however, to permit me, this season, to manipulate her colony in any way that I choose, for the purpose of securing her progeny for breeding purposes.

This queen was selected by Mr. George W. York as a breeder, for Mr. Duff, in the year 1005. Mr. Duff used her as a breeder one season, and then decided that it did not pay him to rear queens, so her colony has been used for the production of honey ever since. Mr. Duff buys a great many queens to requeen his colonies, and he says queens of her class would be cheaper at $10 each, for the production of honey, than the average queen is at 60 cents each. I selected and purchased 3 of her daughters—one 3 years old, one 2 years old, and one a year old. The colonies of these queens show all of the good qualities of the old queen, except gentleness and uniformity of markings; but both of these defects undoubtedly came from the drones with which they mated. The strength of the old queen's colonies, each spring, for so many years, shows the longevity of her bees.

In the fall of 1909, 115 colonies went into winter quarters on the summer stands, and the next spring, although the old queen was 6 years old, her colony was the strongest in the apiary, with those of her daughters ranking next.

Mr. Duff had in his apiary queens from several different queen-breeders, also some imported queens, so it is impossible to know much about the drones that mated with the daughters of the old breeder. However, the drones of these daughters will be sired by the same drone that sired the workers of the old queen, and by the laws of heredity they should transmit all of their good qualities to their progeny.

I have secured the services of 3 people to assist me in my work. One is an entomologist, one a microscopist, and the other an authority on heredity. Whether or not the services of a microscopist will be of value in selecting drones or queens for breeding purposes will have to be determined by trial. If he can determine, with the aid of a high-power microscope, a difference in the virility of drones produced by different queens, then his services will be of considerable value.

Some very careful experiments in heredity are being made at the University of Chicago. They now have the 40th generation of mice, with about 3000 individuals, and an historical record of all of the parents to which to refer in cases of variation; and as their start was made with a pure breed, under the direction of one of the world's greatest biologists, the proper lines of breeding have been quite well established. As the laboratory in which these experiments are being conducted is situated only a few blocks from my home apiary, I expect to profit largely by frequent use of it.

My plan for mating is easily and quickly described. I shall have 4 walls about 40 feet high, making an enclosure, within which I shall place the hives containing the virgin queens. These hives will be placed on the ground, the hives containing the drones will be placed on scaffolding above the ground, which will compel the queens to fly up among the drones when they go out to take their wedding-flight. As I control all of the drones within a radius of about 5 miles, there will be very little chance for any impure matings. This method of compelling the queens and drones to mingle when they come out to take their flight should result in securing the matings in less time, and thereby reduce the loss of queens by accident.

C. O. Smith.

[We are personally acquainted with Mr. Smith, who will doubtless have something further to offer concerning this matter a little later on.

The letter to which he refers as having sent to a few bee-keepers as a "feeler," reads as follows:—Editor.]

Dear Sir:—I am writing to you for the purpose of asking a favor, and I am making the same request of 200 bee-keepers whose names I selected from several thousand I secured from different parts of the country. From the replies which I receive from you and the others to whom I am writing, I shall decide if it will pay me to spend $1500 to get 600 queens to requeen my apiaries.

All of the best queen-breeders, as well as the best stock-breeders and noted entomologists, agree that the father has as much influence on the offspring as the mother has, but the cost of controlling the drone-bee is so great that bee-keepers hesitate about paying out the money necessary to do so. I am inclined to think it will pay, but wish to get the opinion of my fellow bee-keepers before making a decision.

My plan will be to buy the best virgin queens reared and selected by the best queen-breeders in the United States, and mate them, in my own yard, to drones reared from the best breeding queens that I can buy, that have lived to the age of 4 or 5 years, thus securing, on the drone side, a long-lived bee I shall mate them by the plan mentioned in the American Bee Journal of June, 1910.

As stated above, the cost of securing the best virgins from well-known breeders, preparing the yard for mating, buying the best breeding queens from which to rear drones, introducing and mating the virgins, keeping the records, etc., will be at least $1500, and I will need 600 queens, making an average of $2 50 each.

Now, if you will kindly drop me a postal card, telling me if you think the plan will pay, or not pay, as your best judgment dictates, you will do me a lasting favor, and I shall be pleased to reciprocate by giving you the result of the experiment, if I decide to make it.

Thanking you in advance for giving me your opinion in this matter, I remain,

Respectfully yours, C. O. Smith.

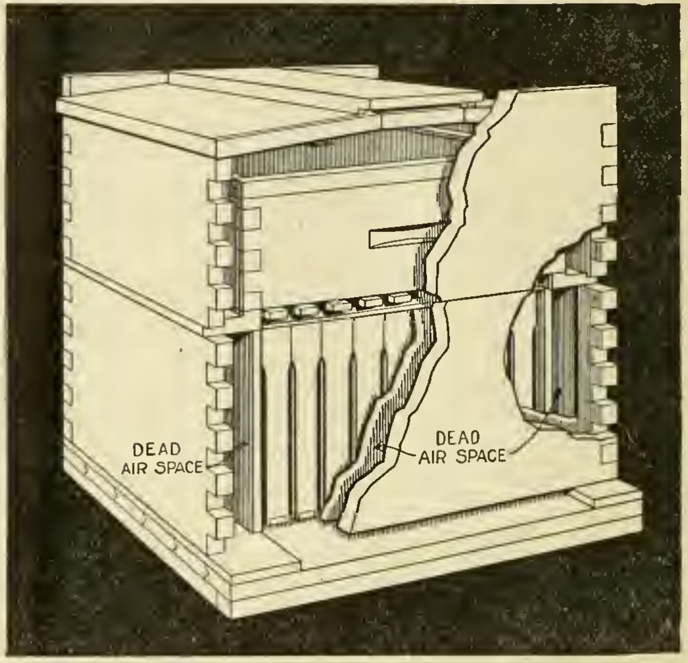
PROTECTION HIVE

All arguments lead to a matter of protection. Dead-air spaces or packing, as you prefer.

Hamilton, Mich.,
Feb. 17, 1911.
A. G. Woodman Co.,
Grand Rapids,
Mich.,

Gentlemen:
You will find enclosed $87.70 for bill of goods, as per order-sheet. Perhaps you will be interested in knowing that again this past fall we secured considerably more honey in Protection Hives than in single-wall hives in the same yard. The weather was cool, and the supers needed protection.
Resp'ctfully yours
Albert Oetman.

Send for Circular showing 12 Large Illustrations, and 40-Page Catalog of Supplies.



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Are a superior honey-gathering strain of hardy Northern-bred straight three-band Italians, the result of years of careful selection and breeding with a view of establishing fixed characteristics along chosen lines.

EVERY QUEEN A BREEDER.—Our Queens are not only large, vigorous, handsome and prolific, but by reason of a judicious system of line-breeding they have the power unerringly to transmit inherent tendencies of a highly desirable nature, such as Hardiness, Gentleness, and Industry, as well as Uniformity of Marking, which makes them especially valuable as Breeders.

SCIENTIFIC METHODS enable us to produce Queens of the highest development, and an economical labor-saving equipment enables us to sell them at a price far below their real value when quality is considered. We believe we have the most economical System of Queen-Rearing in operation in the United States, and we propose to give our patrons the benefit of our lifetime of experience and observation by furnishing them with Queens of the highest quality at a moderate price.

A SQUARE DEAL.—We are bound to give a square deal to all, therefore, we do not list Select and Extra-Select Queens. If you buy a dozen Queens of us you will at least have the satisfaction of knowing that you are getting the best that we know how to produce, and that they have not been culled over and the best of them sold as "selects." Don't buy skimmed milk; get the real thing.

PURITY of MATING GUARANTEED.—We breed only one strain of bees, and control all the drones in our vicinity, which gives us control of the mating of our Queens to a great extent, and every Queen is warranted to produce uniformly-marked three-band bees of superior honey-gathering qualities; don't take chances; get the real thing.

	1	6	12
Warranted Queens	$1.00	$5.00	$ 9.00
Tested Queens	1.25	6.50	12.00
Breeder	5.00		
Half-pound package of Bees without Queen	1.00		
Three (L.) frame Nucleus without Queen	3.25		

Add price of Queen wanted to price of Nuclei and half-pound packages.
Usual discount after July 1st, also on quantity lots. For queens to foreign countries, add 25 percent to above prices.
Safe arrival and satisfaction guaranteed; no bee-disease. Valuable information free for your address. Send for it today.

J. E. HAND, BIRMINGHAM, OHIO.

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb. honey-kegs at 50c each f. o.b. factory. N. L. Stevens, Moravia, N. Y.

SELECTED QUEENS from our honey yards, $1; six, $5. L. E. Kerr, Germania, Ark.

GOLDEN QUEENS—Untested, $1.00: Select Untested, $1.50. Robt. Inghram, Sycamore, Pa.

FOR SALE CHEAP.—60 good second-hand 5-gallon cans, 2 in a box. Write to C. Becker, Pleasant Plains, Ill. 4A3t

ITALIAN Untested Queens, 75 cents; Tested, $1.25. Breeders, $5.00 each. E. M. Collyer.
8A12t 75 Broadway, Ossining, N. Y.

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address.
12Atf T. F. Bingham, Alma, Mich.

ITALIAN QUEENS.—Ready in May. Untested, 65c; select untested, 75c. 3A2t
S. J. Maltby, 9 High St., College Point, N. Y.

WANTED—A few more 4 and 5 year old Queens; also bees.
C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

HIMALAYA BLACKBERRY.—Strong plants of this wonderful berry sent, by mail, 6 for 60 cents; 12 for $1. W. A. Pryal, 101 Pryal Ave., Sta. E, Oakland, Cal.

WANTED—50 or 75 colonies of bees in ten-frame L. hives. State price, also whether Italians, hybrids, or blacks. 4A1t
J. R. Simmons, Harvey, Cook Co., Ill.

Improved golden-yellow Italian queens for 1911. Beautiful, hustling, gentle workers. Send for price list to E. E. Lawrence,
4A3t Lock Box 28, Doniphan, Mo.

SPECIAL—800 2-story 10-frame Root Hives, new, in flat, double cover, regular, $2.35 each; in lots of 50, at $1.00 each. F.O.B. Jeresy City. W. C. Morris, Nepperhan Hts., Yonkers, N.Y.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, $1; Tested $1.50; Select Tes. $2; Breeders, $5 to $10
8A12t J. B. Brockwell, Bradley's Store, Va

FOR SALE.—White Wyandotte eggs, 15 for $1.00; Indian Runner Duck eggs, 12 for $1.00. 1 sitting, express paid, $1.40; 2 sittings, $2.25.
2A3t J. F. Michael, Winchester, Ind.

White and Brown Leghorn Eggs and Chicks. 5 other breeds. Prices right. Safe arrival guaranteed. Bred for utility. Catalog free.
4A3t Deroy Taylor Lyons, N. Y.

UTILITY EGGS—S. C. W. Leghorns, Barred Rocks—$4.00 per doz. Also Pekin or Runner Ducks, $1.00 per 13. Circular free. 4A3t
Premium Poultry Farm, Box 15, LaHarpe, Ill.

I WILL SHIP 15 3-frame Nuclei with Tested, and *Select* Tested honey-queens of 1910, f. o. b. Kenner, La., Am. Express, on date wanted, at $2.75 each, to first order accompanied with five dollars or more.
H. C. Ahlers, Saint Rose, La.

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & Co.,
117 N. Jefferson St., Chicago, Ill.

FOR SALE.—80-acre farm, 70 miles south of Chicago; running water; 20 acres of timber; fruit, and 1250 bearing grapevines. Cheap for cash. Wm. W. Black,
2A3t 2358 Indiana Ave., Chicago, Ill.

WANTED—Position by young married man, experienced in bee-culture. References if required. Give full párticulars when writing. H. L. Soper,
302 Pringle Ave., Jackson, Mich.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2Atf

FINE GLADIOLUS.—Build up your collection of Gladiolia by planting bulblets; they are easy to grow. 200 bulblets of a fine mixture by mail for 25 cents. About 1500 for $1. W. A. Pryal, 101 Pryal Ave., Sta. E, Oakland, Cal.

HONEY BUSINESS FOR SALE. — Wholesale business established many years in one of our largest cities. Write for particulars, Address, Honey Merchants, care American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

FOR SALE.—New crop of Alfalfa Seed. 4 lbs. by mail, prepaid, $1.10; 25 lbs. by fgt. or express, 18c; 50 lbs., 17c; 100 lbs., $16. Also hulled White Sweet Clover Seed at the same prices. R. L. Snodgrass,
4Atf Rt. 4, Augusta, Kans.

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal,
117 N. Jefferson St., Chicago, Ill.

FOR SALE—100 pounds Dadant Medium Brood Foundation—5 pounds at 55c; 25 pounds at 50c; 100 pounds, or quantity left, at 48c.

100 cases second-hand five-gallon Cans, in good condition, at 35c; 15 cases or less, at 40c, f. o. b. cars at Kenner, La.
H. C. Ahlers, Saint Rose, La.

S. C. R. I. Reds, fine red, large birds' eggs from exhibition pens, $2.00 for 15; pens 2, $1.00 for 15. S. C. Black Minorcas, prize-winners at five big shows, 15 snow-white eggs, $2.00. I. R. Ducks, true fawn and white, 13 eggs, $1.50. Satisfaction guaranteed in all my sales. C. O. Yost, Rt. 4, Winchester, Ind.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

NATIONAL LETTER-HEADS.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business like. Every member of the National ought to use these letter-heads, They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at the following prices, which are "cash with order:" 250 sheets, $1.10; 500 sheets, $1.65; 1000 sheets, $3.00. All orders are to be sent to Mr. France.

A WONDERFUL PHOTOGRAPH.—I have photographed a mountain range 95 miles away, beating all previous records by 30 miles. Better still, I have made a picture, a most unusual thing in tele-photography. The subject is Mount Baker, Wash., a snow-clad mountain 11,100 feet high; the point of view is Victoria, British Columbia. For beauty the scene is not excelled on earth. In the immediate foreground is a solid bank of primeval forest, then come the Haro Straits, 45 miles wide, dotted with many islands; next rise the foothills blending into the snowy grandeur of the Rocky Mountains, with Baker towering high above—a silent sentinel. I have also photographed the Olympic Mountains, Wash., from Victoria, a distance of 65 miles, again getting a picture. It took me 18 months' persistent effort to get them, but I will not bother you with my troubles. I am selling prints from the original negatives, 6½x8½, at $1.50 each, but will supply the pair for $2.00. They are printed on heavy cream paper, ready for framing. F. Dundas Todd, Market St., Victoria, B. C., Canada.

Honey to Sell or Wanted

I WANT good flavored Comb Honey in any kind of boxes; also Extracted. Give price.
3Atf O. N. Baldwin, Baxter Springs, Kan,

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

WANTED — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

HONEY WANTED.—We are in the market for both extracted and comb honey. Let us know what you have, with sample of extracted honey, lowest prices f. o. b. Chicago, how put up, etc. Address,
GEORGE W. YORK & Co.,
117 N. Jefferson St., Chicago, Ill.

The Gus Dittmer Co., of Augusta, Wis., are one of the largest manufacturers of comb foundation, which is made by a process all their own. They also handle a full line of bee-keepers' supplies. A copy of their 16th annual catalog for 1911 is on our desk. The Gus Dittmer Co., like many another bee-supply concern, is a sort of family affair, as Mr. Dittmer and his son "Fred" run the business. For a number of years a daughter also helped to make comb foundation, but a promising young man by the name of "Hammer" took after her, and the result was that she was taken out of the business. There is also another similarity in the Dittmer firm to other bee-supply dealers, in that they are a very nice firm to deal with.

Illinois Annual Report.—The Secretary of the Illinois State Bee-Keepers' Association, Jas. A. Stone, wishes to say that since the beginning of this year he has spent about all his time in correspondence and committee work trying to secure the passage of the bee-disease bills now before the State Legislature; and since the first of March he has had the extra work of getting the matter to the printer, reading proof, etc., for the Tenth Annual Report, soon to be out; so that it is impossible for him to find time to answer all the enquiries as to when the Report will be out. There will be no time lost in mailing it, as soon as printed.

Dr. F. L. Peiro, 72 E. Madison St., Chicago, Ill., will be glad to furnish advice free to readers of the American Bee Journal along the line of obscure surgical and medical aid. Any of our readers, who wish to consult a doctor who understands his business, will find it to their interest to write or see Dr. Peiro. The Editor of the American Journal has known him intimately as a neighbor, and also through personal treatment, for almost 20 years. He will "treat" you right, if you give him the opportunity.

☞ Please mention the American Bee Journal when writing to its advertisers.

Carniolan Queens!

Bred from the Best Imported Strains

Prices—	Before July 1st. 1	6	12	After July 1st. 1	6	12
Untested	$1.00	$5.50	$10.00	$ .75	$4.25	$ 8.00
Tested	1.25	6.75	12.75	1.00	5.50	10.00

I have bred this strain for over 15 years and have tried Queens from several districts in Krain and Ober-Krain, Austria. I am trying, this summer, Imported Queens bred by Johann Stegar, F. Unger, and a few others; and a Queen I got from Frank Benton, that came from the cold Alps Mountains of upper Carniola. I am also getting 1-lb. of bees and a Queen from the Imperial Royal Agricultural Association of Carniola, Austria. The drones will be well controlled and bred from the colonies that gave the best average yield in a yard of 300 colonies last summer. 4A1t

Wm. Kernan, Dushore, Pa.

Please mention Am. Bee Journal when writing.

Queens That 'Are Better'

Italians and Banats

Untested, 75c each; $8.00 per dozen.
Tested, $1.25 each; $12.00 per dozen.
Select Breeders from full colonies; $3.00 each.

I also mate Italians with Banat drones from my honey-yards; these I can furnish at above prices.

All are guaranteed pure, and free from disease.

Write for wholesale prices of Bees, Nuclei and Full Colonies; also references. 4A6t

J. A. Simmons, Sabinal, Tex.

Please mention Am. Bee Journal when writing.

Marshfield Sections

Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

Bees for Sale

As usual, we will offer Italian bees in full colonies, and also nuclei for sale the coming season. Full colonies in 8-frame Langstroth hives, at $7.00 each; or in lots of 5 or more, $6.50 per colony; in 10-frame hives, $7.50 each, or in lots or 5 or more, $7.00 each. Three Langstroth-frame nuclei with queens, $3.75 each; or in lots of 5 or more, $3.50 each. Cash with order. These prices are f. o. b. cars 100 miles west of Chicago. Full colonies we expect to be able to ship any time after April 15th, and nuclei after May 10th. "First come first served." Address,

George W. York & Company,
117 N. Jefferson St., Chicago, Ill.

Please mention Am. Bee Journal when writing.

FOR SALE—Bees and Queens reared from Imported Mothers. Gentle and Hardy.

Simmins' PEDIGREE W. S. Strain SURE HONEY-GETTERS.

American Apiculture and Farming Co., St. Louis, Mo.

Please mention Am. Bee Journal when writing.

Queens Ready Now!

Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3	Band	Untested	Queens,	1, $ 0.75; 6, $ 4.20
3	"	Tested	"	1, 1.00; 6, 5.70
3	"	Breeder	"	1, 5.00; 6, 25.00
5	"	Untested	"	1, 1.00; 6, 5.70
5	"	Tested	"	1, 1.50; 6, 8.70
5	"	Breeder	"	1 10.00; 6, 50.00
3	"	Nuclei 1-fr. with	Unt. Queen	1.75
3	"	" 2-fr. "	" "	2.25
3	"	" 1-fr. "	Test. "	2.00
3	"	" 2-fr. "	" "	2.50
3	"	Full Colony "	Unt. "	4.75
3	"	" " "	Test. "	5.00
5	"	Nuclei 1-fr. "	Unt. "	2.00
5	"	" 2-fr. "	" "	3.00
5	"	" 1-fr. "	Test. "	2.50
5	"	" 2-fr. "	" "	3.50
5	"	Full Colony "	Unt. "	8.00
5	"	" " "	Test. "	9.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,
R. F. D. 3 LITTLE ROCK, ARK.

Please mention Am. Bee Journal when writing.

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for May.

One Untes. Queen...	$1.10
" Tested " ..	1.45
" Select Tes. " ..	1.85
" Breeder Queen..	3.10
" Comb Nucleus—no queen........	1.15

Safe arrival guaranteed. For prices on larger quantities, and description of each grade of Queens, send for for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

Please mention Am. Bee Journal when writing.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.
4Atf PROVIDENCE, R. I.

Please mention Am. Bee Journal when writing.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.
Cor. Nolan & Cherry Sts.,
4Atf **San Antonio, Texas.**

Please mention Am. Bee Journal when writing.

QUEENS

From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt.1, Wapato, Wash.

Please mention Am. Bee Journal when writing.

SAVE

Your Queenless Colonies

Introduce a vigorous Tested Queen. We can supply them

By Return Mail for $1.00 Each.

Queens reared last fall from our well-known strain of Italians, and every Queen guaranteed.

Send for Price-List. 4Atf

J. W. K. SHAW & CO.,
LOREAUVILLE, Iberia Parish, LA.

Please mention Am. Bee Journal when writing.

Mexico as a Bee-Country

B. A. Hadsell, of Buckeye, Arizona—one of the largest bee-keepers in the world—has made 5 trips to Mexico, investigating that country as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated pamphlet describing the tropics of Mexico as a Bee-Man's Paradise, which he will mail free by addressing him— 4A2t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

Lone Star Apiaries Co. Italian Queens

From Imported Mothers.

PRICES

One, $1.25; six, $7.00; 12 for $12. Breeders, $3.00.

Another Queen or your money back if not satisfied.

Write for descriptive Circular. 4Atf

LONE STAR APIARIES CO.
BIG FOOT, TEXAS.

ITALIAN Queens Direct from ITALY

—Extensive Apiaries—

E. PENNA, BOLOGNA, ITALY

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are pure and rightly mated. One selected fertile Queen, 90c.; two Queens, $1.60; six Queens, $4.50; one Breeding Queen, $2.00. Cash with orders. Queens postpaid. *The safe arrival is* NOT *guaranteed.*

Please mention Am. Bee Journal when writing.

MARSHFIELD GOODS

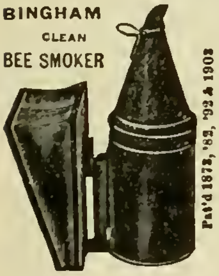
BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., **Marshfield, Wis.**

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER



Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

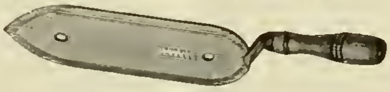
A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.



T. F. BINGHAM, Alma, Mich.

Patented, May 20, 1879. **BEST ON EARTH.**

Italian Queens Any Month

In the year, from my Jamacia, B. W. I. yard; from Yonkers after May 1. Italians, Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.50; Breeders, $3.00. Others 25c extra. Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Gleanings, Bee-Keepers' Review, A B C, and Langstroth for $3.50; by mail, 50c extra. "The Swarm," by Materlink, by mail, 75c; regular, $1.30. Root's supplies. Send for catalog. 3A1y

W. C. MORRIS,
Nepperhan Heights, YONKERS, N. Y.

SOUTHLAND QUEENS

Bred from the best Goldens. 3-Band from Imported mothers. 25 years' experience as breeder. Untested, 75c. each; Sel. Unt., $1 each; Tested, $1.25 each; Sel. Tested, $1.75 each; Breeders, $3.00 each. Tested Queens are mated 3-Bands. Address,

N. Forehand, Ft. Deposit, Ala.

MOTT'S
Strain of R. C. Italians

Are the best. Natural 5-Banded Golden R. C. Queens from imported Italian stock. My 10-page Descriptive Price-List tells all about my bees. It is free. Untested, $1.00 each; $9.00 per doz. The Natural Golden R. C., $1.10 each; $10 per doz. Reduced rates after July 1st. See list. Nuclei, also Bees by half and pound. See list. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

BEE-HIVES
and Supplies

at factory prices. Satisfaction guaranteed or your money refunded. Our G. B. Lewis Co's. make is best of all. This Ad. may not appear again, so just drop me a card today for my Catalog.

W. H. FREEMAN, Peebles, Ohio

Please mention Am. Bee Journal when writing.

Wanted

Fine Qualities of
White and Light Amber
Extracted Honey

Send samples with Lowest Prices, f. o. b. New York. Also state how it is packed, an the quantity you have.

We are always in the market for

◈ Beeswax ◈

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Golden and 3-Band Italian Bees & Queens | From Extra SELECTED MOTHERS

Prices	1	6	12
Untested	$1.00	$ 5.00	$ 9.00
Selected Untested	1.25	6.50	12.00
Tested	1.50	8.00	15.00
Selected Tested	2.00	11.00	21.00
8-Frame Colony	6.00	33.00	61.00
3-Frame Nuclei	3.75	21.25	40.00
2-Frame Nuclei	3.00	17.00	32.00

Safe arrival. I am now booking orders for early spring delivery. Twenty-two years' experience. Send your orders to—

E. A. SIMMONS,
3Atf GREENVILLE, ALA.

Please mention Am. Bee Journal when writing.

"If goods are wanted quick, send to Pouder"
(Established 1889)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Watter S. Pouder, Indianapolis, Ind. **859 Massachusetts Ave.**

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

CAPON TOOLS

CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c, Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*
G. P. Pilling & Son Co., Philadelphia, Pa.

Please mention Am. Bee Journal when writing.

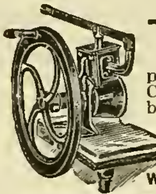
Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

☞ The oldest Bee-Supply Store in the East. 2Atf



This Bone Cutter

produces filled egg baskets. Cuts fast and easy. Green bone, scraps from table, vegetables, scrap cake. Always ready for use.
Send for catalog.

WILSON BROS., Box 814 EASTON, PA.

LONG LIFE Is included in Root's honey-extractors

Without Extra Charge! Durability, Ease of Operation, Satisfaction —All are Covered in the Purchase Price!

JULIUS JOHANNSEN, an Ohio bee-keeper says: "Please send me a new gear for my old NOVICE HONEY-EXTRACTOR. I have had it for **26 years.**

Where else can you buy an extractor that will give such service?

Are you getting posted on the possibilities of running for extracted honey? There's money in it, and you ought to know why and how to get your share. Ask for the free Extracted Honey booklet and the new ROOT catalog—they are worth having handy.

* * * * *

Get ready NOW for the busy season!

CAPPING MELTERS, the ROOT steam uncapping-knife, and all other special supplies for producers of extracted honey are fully described in the new ROOT catalog.

This complete book is full of information on the latest appliances for successful bee-keeping, and should be in the hands of every apiarist. GET YOUR COPY NOW.

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Remember that we are conveniently located for your benefit. Large stocks of everything in the big ROOT LINE are kept at this central distributing point that you may save time and money on orders filled at Chicago.

Get Ready Now for the busy season.

The A. I. Root Co.

213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr (JEFFREY BUILDING) Telephone 1484 North.

Established 1885

ALWAYS ON TOP

We carry an up-to-date Line of

Bee-Keepers' Supplies

Prices the Lowest in the West. Write us for our 50-page Catalog, ready to mail you. Free for the asking. We can fill your orders promptly and satisfactorily. Our old customers know what we handle; to new ones we can say that we have

The Best Make of Supplies

hence there is nothing to fear as to quality.

Send us your rush orders and get your goods before swarming-time arrives.

Bees and Queens in their season.

Beeswax taken in exchange for Supplies or Cash.

John Nebel & Son Supply Co.
High Hill, Montg. Co., Mo.

Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Illustrated Bee-book for beginners—"A gem." Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for—— 1Atf

"Falconer"

—— Write for Catalog.

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,
Berclair, Goliad Co., Tex.

Please mention Am. Bee Journal when writing.

Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. Lyons,
8A12t Rt. 5, Box 88, Ft. Collins, Colo.

Missouri-Bred Italian Queens—These queens are bred for results, having all the good qualities and will "show you" by filling the supers with honey. Prices right. Free Circular.
4A1y L. E. Altwein, St. Joseph, Mo.

Carniolan Gray-Banded Alpine Bees.

Queen, select tested, March, April, May, $5.00; June, July, $3 50; Aug., Sept., Oct., $3.00.

Queen, select untested, June, July, Aug., $2.00.

Virgin Queen, select. June, July, Aug., $1.50.

Nucleus, with sel. test. queen and one pound bees—March, April, May, $6.00; June, $5.00; July, Aug., Sept., Oct., $4.50.

Mobil Hive, 10 half-frames of Germ. Stand. size—March, April, May, $9.00.

Carniolan original hive, sel test. qeeen, brood, honey, will produce 2 to 3 swarms—March, April, May, June, $9 00; Aug., Sept., Oct., $8.00.

On orders amounting to $50.00, ten percent discount; from $50.00 to $75.00, fifteen; from $75.00 up, twenty percent discount.

For complete Price-List see our advertisement in American Bee Journal of March, 1911.

Safe arrival of queens, nuclei, and hives guaranteed. International postal money order with every order. Give correct and plain address. Mailed, postage free, queens and nuclei, postage or freight paid by receiver for shipments of hives. Eventual dead queens or dead stock replaced if returned in 24 hours after arrival in postpaid package. Orders, to be effected at other times than the months above stated, will be filled, provided weather and other conditions make it possible. Write for the booklet, "The Carniolan Alpine Bees." References respecting financial and commercial responsibility of the undersigned Association can be had at every Imperial and Royal Austro-Hungarian Consulate in the U. S. of America.

Special Contracts with Dealers. Write English.

The Imperial-Royal Agricultural Association, Ljubljana, Carniola, (Krain)
AUSTRIA

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25; dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.) **Send for Catalog.**

148 West Superior St., CHICAGO, ILL. **Enough said!**

Increase Your Honey Crop

By introducing some of OUR **Famous Honey-Queens.** Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.**

Will sell Queens the following prices, May to Nov., Untested Queen, $1.00; 6 for $5.50. Tested, $1.50; 6, $8.50. Breeders, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

Early Queens and Late Queens

Bred from pure 3 and 5 banded and Golden Italians. All queens are reared in strong colonies and mated in four-frame nuclei. All orders filled promptly.

Untested....$1.00; six, $4.50; twelve, $ 8.00
Tested....... 1.50; " 7.50; " 13.50

Breeders, $3.00. Three-frame nuclei, $3.00, with price of queen wanted added. Discounts for quantity. 4A6t

A. B. MARCHANT, Sumatra, Fla.

P. S.—Write me for a good proposition on bee-keeping, to the right party.

SEND FOR FREE

ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars, 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1⅜ sections.

Car-load Section ordera a specialty.

CHAS. MONDENG,
160 Newton Ave., N.,
3A6t **MINNEAPOLIS, MINN.**

Golden or Three-Band

I guarantee perfect satisfaction and safe arrival on all Queens. Nothing but good Queens sent out, of either strain. 75c each, or $8.50 per dozen.

R. O. Cox, Rt. 4, Greenville, Ala.

Please mention Am. Bee Journal when writing.

Comb Foundation

BEE-KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of

Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

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Mr. Bee-Man

We carry in stock the well-known

Lewis Beeware, Bingham Smokers, Dadant's Foundation, or Anything the Bee-Keeper may need. **Catalog Free.**

Beeswax Wanted.

The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Why Pay More than 25 Cents?

for a Poultry Magazine when you can get

The National Poultry Journal FOR EVEN LESS

If you take advantage of this liberal offer. The NATIONAL is an up-to-date poultry paper, publlshed monthly in honor of Her Majesty, the American Hen. Devoted to practical poultry keeping in all its branches, it will help you make more money out of your poultry. Try it a year at our expense, by sending us your name and address plainly written, and enclosing only fifteen (I5) cents to help pay postage, and we will send you the NATIONAL for one full year. Address,

The National Poultry Journal, Business Offce, Elkton, Va.

The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

COFFEE ONE CENT PER POUND

Salzer's French Bean Coffee

(SOJA HISPIDA)

A wholesome drink! The healthiest ever; you can grow it in your own garden on a small patch 10 feet by 10, producing 50 lbs. or more. Ripens in Wisconsin in 90 days. Used in great quantities in France, Germany and all over Europe.

Send **15** cents in stamps and we will mail you a package giving full culture directions, as also our Mammoth seed catalog free; or send **31** cents and get, in addition to above, 10,000 kernels unsurpassable vegetable and flower seeds—enough for bushels of luscious.different vegetables and brilliant flowers.

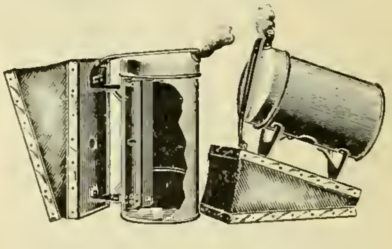
JOHN A. SALZER SEED COMPANY
210 South 8th St. La Crosse Wis.

FENCE *Strongest Made*

Made of **High Carbon Double Strength** Coiled Wire. **Heavily Galvanized** to prevent rust. Have **no agents. Sell at factory prices on 30 days' free trial.** We pay **all freight.** 37 heights of farm and poultry fence. **Catalog Free.**

COILED SPRING FENCE CO.
Box **89** **Winchester, Indiana.**

Gold Medals St. Louis Exposition, 1904.
Jamestown Centennial, 1907.



Danzenbaker ⁒ Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate,** forcing air **both ways,** makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest net capacity** of all smokers, selling at one dollar ($1.00). We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail	$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail	1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail	1.00
With American Bee Journal one year, about 400 pages, by mail	1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,
68–70 Woodside Lane, NORFOLK, VA.

Standard Breed Queens!

Of the Highest Quality. Reared from our Superior Golden Stock. Will be ready by April 15th. Untested, $1.25; 6 for $6.00; 12 for $10.00. We are prepared for prompt service, and plenty of Queens in their season. No disease, and hustlers for honey. 3Atf

T. S. HALL,
Talking Rock, Pickens Co., Ga.

HONEY AND BEESWAX

CHICAGO, March 27.—The demand for comb honey is unusually limited, the little that does sell is the highest grade; for ambers and combs with empty cells it is difficult to find a purchaser. Prices are practically unchanged since quotations given in March. Extracted is firm, owing to scarcity; but the volume of business done in it is small. White, 9@10c; ambers, 8@9c. Beeswax sells upon arrival at 32c, if clean and pure.
R. A. BURNETT & CO.

CINCINNATI, March 27.—At the present time, we have no comb honey to offer. Extracted table-honey is in fair demand, and is bringing 10c per lb. put up in 60-lb. cans. Amber honey in barrels is selling at 8c. Beeswax is selling at $33 per 100 lbs. These are our selling prices, not what we are paying.
C. H. W. WEBER & CO.

DENVER, March 31.—Demand for honey is lighter than usual for this time of year. We make the following jobbing quotations: No. 1 white comb honey, per case of 24 sections, $3.15; No. 1 light amber, $2.93; No. 2, $2.70. White extracted honey, 9@10c per lb.; light amber, 8¼@9c. We have no amber to quote. We pay 26c cash, or 28c in trade, for average yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

NEW YORK, March 27.—Trade on comb honey is quiet. Some little demand for strictly fancy white stock, but sufficient supply. Off grades, mixed and buckwheat are dragging. Fancy white still brings from 14@15c per pound, while on all other grades prices are nominal, and in quantity lots must be shaded considerably in order to effect sales. We can not encourage shipments on comb honey for the present. Extracted is in good demand, especially for fancy grades, which are scarce and hard to obtain. No change in price from our last quotations. Beeswax quiet at 29@30c.
HILDRETH & SEGELKEN.

BOSTON, March 27.—Fancy and No. 1 white comb honey, 14@15c. Fancy white extracted, 11@12c. Beeswax, 30c. BLAKE,-LEE CO.

KANSAS CITY, MO., March 27.—The demand for both comb and extracted honey is light—supply is also light. We quote: No. 1 white comb, 24-section cases, per case, $3.25@$3.35; No. 2, $3.00; No. 1 amber, $3.00@$3.25; No. 2, $2.75. Extracted, white, per lb., 8½@9c; amber, 7@8c. Beeswax, 28@30c.
C. C. CLEMONS PRODUCE CO.

ZANESVILLE, OHIO, March 27.—Honey is in normal demand with no offerings by producers. Best grades of white comb go to the retail grocery trade at 18@18½c. Extracted is quoted at 10½c for best white. No demand for amber or dark. Producers are offered for beeswax 28c cash, 30c in trade.
EDMUND W. PEIRCE.

INDIANAPOLIS, March 27.—There is a good and steady demand here for best grades of comb and extracted honey. Jobbing houses are well supplied, but practically none is now being offered by producers, and it is evident that there will be a shortage before the new crop can arrive. Fancy white comb is being offered at 18c; No. 1 white at 17c; extracted, 11c, with some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 29c cash, or 31c in trade.
WALTER S. POUDER.

CINCINNATI, March 27.—We are selling fancy comb honey from $3.75@$4.00 per case; fancy white extracted, in 60-lb. cans, two in a crate, from 10@11c; amber honey from 5¾@7c, according to quality and quantity purchased. We are paying 30c cash, or 32c in trade, for bright yellow beeswax, delivered here.
THE FRED W. MUTH CO.

THE FAMOUS
Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
Tested— each, $1.25; per dozen, 12.00

This, if you please, just paste in your hats. There are no better Bees than

My Famous Banats.

GRANT ANDERSON,
2Atf **San Benito, Texas.**

Please mention Am. Bee Journal when writing.

CINCINNATI A CENTER

In this fine location on the Ohio River, right on the boundary between Ohio and Kentucky, close to the Indiana line, and on main highways to Western Pennsylvania and the great South, we command facilities no other supply-dealer in this section can offer.

Prompt Shipments !————Complete Stocks !
These are Weber Recommendations.

Coupled with many years of experience, and our desire to give you the utmost satisfaction, advantages like these should not be overlooked.

Be sure You have our New catalog.

This is the complete book of bee-keepers' supplies. In it you will find conveniently arranged and clearly described everything from A to Z in the way of appliances for successful bee-keeping. Many new supplies are listed this year, and changes in former goods have been made so it is essential that you should order from our newest catalog. Of course, you are entitled to a copy. If you have dealt with us in past seasons one has been mailed to you without suggestion or request from you, but this may have gone astray. Do not lose time in telling us if you are without our money-saving price-list—we want you to have a copy every year.

Poultry Supplies A special catalog of these Goods, which we will gladly furnish free upon request.

Special Inducements for Early Orders.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

The Business Center of the Middle States is

CHICAGO

The Center of Chicago is the

W. T. Falconer Mfg. Co.

117 North Jefferson Street.

Ours is "the **only** bee-supply house in the business section of Chicago." The location is not only the most convenient for those who call for their goods, but our proximity to all the railroads and express companies places us in a position to give the best service which bee-keepers in the Middle States have ever enjoyed. Your orders will be sent by mail, or forwarded by freight or express the same day received.

Why Not Try the "falcon" Goods?

"falcon" quality Hives, Sections, Foundation, Smokers, Extractors, have never been equaled by any other make. Why buy others when they cost no more, and you can get them with such prompt service?

The "Falcon" Brand

A "Falcon" THERMOMETER

With Your Bee - Supplies

To introduce our three new carload distributing points, a Thermometer is included with first orders of a certain size.

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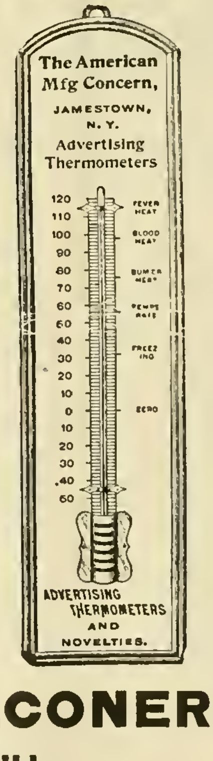
130 Grand Ave., Kansas City, Mo.

ROSS BROS. CO.,
90 Front St., Worcester, Mass.

W. T. FALCONER MFG. CO.,
117 N. Jefferson St., Chicago, Ill.

Write them for particulars and a copy of our "Red Catalog."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From Your Nearest Dealer

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Deroy Taylor, Lyons, Wayne Co., N. Y.
Cull & Williams Co., 180 Washington, St., Providence, R. I.
Hudson Shaver & Son, Perch River, Jefferson Co., N. Y.
A. M. Applegate, Reynoldsville, Penn.
Clemons Bee-Supply Co., 2d and Grand Ave., Kansas City, Mo.
J. R. Rambo, Collingdale (near Philadelphia), Penn.
Branch, W. T. Falconer Mfg. Co., 117 No. Jefferson St., Chicago, Ill.
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Many other dealers in this country handle our Goods, and they can be purchased in nearly every country on the Globe. Write for name of your nearest dealer.

W. T. FALCONER MFG. CO.

117 N. Jefferson St., CHICAGO, ILL. **Factory: FALCONER, N. Y.**

51st Year
No. 5

May, 1911

$1. a Year
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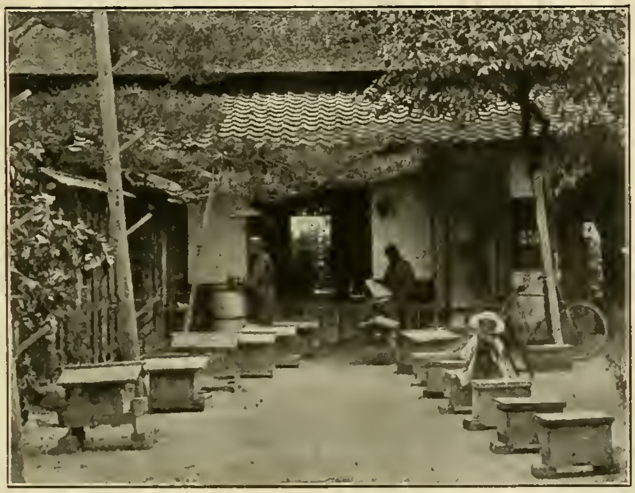
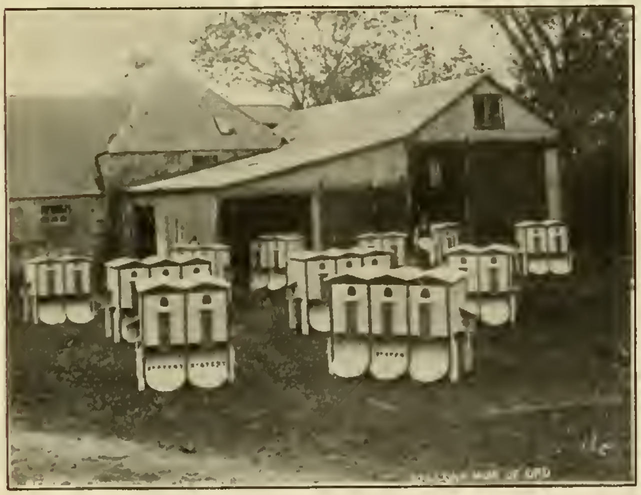
AMERICAN BEE JOURNAL



Nonogaki Apiary, of Owari, Japan.—See page 135.



Novel Bee-Hives of Scotland.—See page 144.

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AMERICAN BEE JOURNAL
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America (except in Chicago, where it is $1.25), and Mexico; in Canada, $1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

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14 lines make one inch.
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3 times 14c a line   9 times 11c a line
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Reading Notices, 25 cents, count line.
Goes to press the 6th of each month.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.
Buy Honey and Beeswax.
Catalogs Free.

Toepperwein & Mayfield Co.
Cor. Nolan & Cherry Sts.,
4Atf **San Antonio, Texas.**
Please mention Am. Bee Journal when writing.

THE FAMOUS
Texas Queens!

Will be ready about March 1st. My **Famous Banats** are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known **3-Banded Italians** carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
Tested— each, $1.25; per dozen, 12.00

If you wish to swell your means, Just try my Famous Texas Queens

GRANT ANDERSON,
2Atf **San Benito, Texas.**

Untested Italian Queen-Bees

Our Standard-Bred

6 Queens for $4.50 ; 3 for $2.50 ; 1 for 90 cents.

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine They are good breeders, and the workers are showing up fine I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co , Kan , July 15. A. W. SWAN.

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada July 22 CHAS. MITCHELL

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22. N. P. OGLESBY.

GEORGE W YORK & CO.:—The queen I received of you a few days ago came through O, K , and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for $1.60. Three Queens (without Journal) would be $2.50, or 6 for $4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

George W. York & Co., Chicago, Ill.
Please mention Am. Bee Journal when writing.

Catalog describing the **BEST** and the **CHEAPEST** BEE-SUPPLIES, in the Country. Yours for the Asking.

Eggs of Barred and White Plymouth, White Wyandotte, now at 25c less on the dollar per sitting of 15.
Day-old Chicks at 10c each.
Personal attention given to all letters.

H. S. Duby, St. Anne, Ill.

QUEENS
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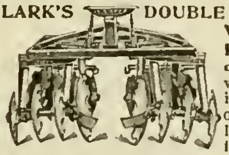

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AMERICAN BEE JOURNAL

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EDITORIAL COMMENTS

National Convention at Minneapolis

As announced last month, the next meeting of the National Bee-Keepers' Association will be held in the Court House at Minneapolis, Minn., Aug. 30 and 31, 1911. This will indeed be a fine opportunity for the bee-keepers of the Northwest to show how large and enthusiastic a gathering they will be able to have at Minneapolis. The National convention has never met in that part of the country, although it has been almost everywhere else during its over 40 years' existence.

We would not be at all surprised if the Minneapolis meeting would be the largest ever held by the National. The Albany convention of last year was certainly well attended, and it was a good meeting, according to the expressions of many who were there. We understand that the Convention Hall in Minneapolis will hold something like 500 people, and we would not be surprised if it would be crowded, as there certainly are many convention-going bee-keepers in that section of the country. Besides, there will no doubt be many bee-keepers who have never before been in the region of Minneapolis who will want to go there, especially at that season of the year when it will be cooler than the southern portion of our country. If we can have a program equal to the one at Albany—and it may be that it will be even superior—it will be a memorable meeting of bee-keepers of this continent.

It is held thus early on account of the requirement of the Association's Constitution for amending and revising; in order to do this the National meeting must be held at least 45 days before the National election, which is Nov. 1st. So this next meeting of the National will be a very important one, and it is hoped that the best ability in the ranks of beedom will be there.

Just following the convention the Minnesota State Fair will be held in Minneapolis. No doubt a good many bee-keepers will wish to stay over so as to see the wonderful bee and honey exhibit that the Minnesota bee-folks always put up at their State Fair.

The time and place of this year's National bee-convention being fixed thus early, the bee-keepers from everywhere will have time to plan to attend. There ought to be special cars of bee-keepers from different parts of the country, as that is one of the most enjoyable ways of traveling to conventions. We would suggest that it is time that the South get together at least one carload and attend the Minneapolis convention. California and some other Western States ought also be able to rally a carload each. From the East, beginning with New York State, there ought easily to be several carloads of bee-keepers who would be glad to come to the National convention and see something of the great West, although, of course, Minneapolis can hardly be called a Western city.

It seems to us that this meeting of of the National might easily be the best attended and most interesting and profitable of any the National has ever held. It ought to take some advance steps in the way of revising the Constitution so that the borders of its work and value to its membership will be enlarged, and that honey-production may be put upon a better business basis. To do this there will be need of the attendance of a large number who have real faith in the future of bee-keeping, and who will be willing to render all the assistance possible in order to inaugurate new departures along the lines of better organization and a more general co-operation among the membership.

We are sure that the Executive Committee, which is composed of the President, Vice-President, Secretary and Treasurer, will be very glad to receive suggestions for improving the Association, from any and all members who think they have some ideas that would help if carried out. Such suggestions could be considered at the convention, and no doubt from the combined wisdom of all there would result a more perfect organization and better results than have been possible heretofore from the National Bee-Keepers' Association.

Full Sheets of Foundation in Sections Profitable

Some use small starters of foundation in sections and some fill the section full. If these latter are asked why they use full sheets of foundation in sections, very likely the majority of them would answer that the sections are filled out in better shape, and the comb is better fastened. If those who use small starters were asked why they do so, very likely nearly all of them would answer that the small starters are less expensive. But that may be mistaken economy. Leo E. Gately made the statement in Gleanings that when full sheets of foundation are used there is a gain in the amount of honey produced over that obtained with small starters that varies from 5 to 25 percent. Commenting on this in the same paper, J. E. Crane says:

> "If we call it 15 percent (and my own experience would place this estimate as conservative) on a crop of 50 pounds per hive, it would make 7½ pounds, which, at 14 cents, would be $1.05; and if we take out 25 cents for the value of the full sheets of foundation we still have 80 cents per hive as above, where starters are used, to say nothing of the improved appearance of the sections."

According to that, one is losing money by using small starters.

The Poison-Spray Problem

Being a constant reader of bee-papers, I have noticed a number of complaints of bees being poisoned through careless spraying of fruit-trees, or, rather, spraying at the wrong time. I believe the best thing to do is to educate the fruit-growers. My idea is for the bee-keepers to choose some good publication on fruit-growing, then see to it that some one who understands spraying thoroughly, both from the fruit-growers' point of view and also from the bee-keepers' way of looking at the question, write some good, short articles giving plain directions how to spray, and especially what time to spray, but not to mention bees, as some people may be prejudiced against bees. Then let each and every bee-keeper that has cause to believe there will be spraying at

> the wrong time in his locality, have copies sent to all of his neighbors where he thinks it is needed. It ought not to cost much, and will be money well spent. The fruit-grower should get his copy just before the usual time of spraying. If he reads anything at all, it will be good advice, and at the right time. ILLINOIS RUSTIC.

On the face of it, it would seem that all that is necessary is to have fruit-men sufficiently well informed to prevent any possibility of spraying fruit-trees while in bloom. Leading authorities among horticulturists declare that no good can come from spraying during bloom, for the insects that are to blame for wormy fruit do not get in their work upon the blossoms, but on the young fruit after the blossoms have fallen. On the other hand, the poison does harm when it falls upon the tender stigma of the blossom, making it unfit to receive the pollen for the fecundation of the ovules. Intelligent horticulturists are also emphasizing more and more the fact that insect assistance is of exceeding importance in getting a crop of fruit to "set," and that in most places proper fecundation is dependent almost entirely upon the bees.

Now it would seem that under the circumstances the right sort of a man would hardly be willing to cause a severe loss to his bee-keeping neighbor by poisoning his bees, and even if he were utterly selfish, self interest ought to restrain him. Indeed so reasonable is this, that when the Illinois legislature was asked to pass a bill making it unlawful to spray during fruit-bloom, a prominent legislator, himself a leading authority among fruit-growers, opposed it on the ground that it was utterly needless, for no intelligent fruit-grower would be so stupid as to do a thing that would result only in injury to himself.

Yet facts are stubborn things. Among the personal acquaintance of the writer is a fruit-grower who sprays his trees before they have gone out of bloom. He is no ignoramus; he is a well-informed man, with a high standing as a horticulturist. He is not a bad man with no regard for the interests of his neighbors. He is a good man, public-spirited, and among the foremost in church work and in matters for the general public welfare. When remonstrated with for poisoning the bees that have come to do him a benefit by helping in the securing of a crop, and for causing a serious loss to the owner of the bees, he replies that his orchard is so extensive that unless he begins spraying before the last blossoms fall the earliest fruit will be too far advanced to be benefited by the spraying. And so he thinks that the loss to surrounding bee-keepers from his spraying during bloom is not so great as would be his personal loss if he should wait until all blooming has ceased. To say that he is mistaken is hardly to the point. He thinks his view is correct, and is conscientious in his belief. Now what good would it do to put into the hands of such a man literature such as our friend proposes? The only thing to meet the case is to have a law like the New York law, making it a criminal offense to use poisonous spray during bloom. There ought to be no difficulty in obtaining such a law, and there probably will not be, so soon as the complexion of the Illinois legislature is so changed that a rake-off for the jack-pot will not be demanded as the price of securing laws for the public good.

In the meantime it will no doubt be a good thing to make sound information as to the matter easily available, so that fruit-growers may fully understand as to their own best interests.

Swarming Prevented by Management

J. E. Chambers makes in Gleanings the rather startling statement that he has nearly 800 colonies of Carniolans, which have the reputation of being the greatest swarmers known, and yet he does not have over 6 percent swarming. He uses large hives at all seasons of the year, gives generous ventilation and shade, and says:

> "But perhaps the most important reason why I have so little swarming is that I try to get every colony well started to gathering honey before the condition of the hive becomes crowded with young bees. With this object in view I winter all colonies with from 75 to 100 pounds of honey in the combs; and as soon as extensive brood-rearing is begun I extract clean—that is, if there is a flow on, or near at hand. This gives abundant room at the right time."

The Carniolan Gray-Banded Alpine Bees

A stroke of enterprise that challenges admiration is shown in the publication of a brochure of 20 pages having the above title, evidently printed in Carniola, and yet in the English language, in the interest of the Carniolan queen-trade. It is published "by the Imperial Royal Agricultural Association of Carniola," and is devoted to making known the good character of Carniolan bees. Industry and gentleness are claimed, and especially hardiness and prolificness. "Yea," says the writer, "the Carniolan Alpine bees are undoubtedly the most prolific breeders, the most severe winters they stand well, and in the spring they breed rapidly up." The pamphlet seems to be devoted to a campaign of general publicity, no mention being made of prices or of places or persons to order from, this being left to specific advertising. For those who want Carniolans in their purity, certainly here is their opportunity.

Smoking Bees at the Hive-Entrance

D. M. Macdonald says in the British Bee Journal:

> "An Australian advises not to inject smoke at entrance when manipulating. Another says that Doolittle advises the contrary, and adds: 'I inject smoke at the entrance before raising the quilt.' I wonder, now, if many follow out this practice. I never found any necessity for it, and I question if for ordinary operations, it would do any good. More interruption of work and more confusion in the interior would result."

W. Woodley adds: "I never think of doing such a thing."

I must confess that I never manipulate a hive without first blowing a little smoke into the entrance, if smoke is used at all, and I must further confess that I have been ignorant enough to suppose that every one else followed the same practice. But when two such prominent writers object, it raises the question whether, after all, their practice may not be the usual and mine the exceptional. Referring to several text-books, however, I find instruction for an introductory puff of smoke at the entrance. Among these books are the excellent works of Messrs. Cowan and Digges. Apparently it is the usual way.

But sometimes the unusual way is the better way, and I, for one, would be glad to hear further from Messrs. Macdonald and Woodley, why they object to a first puff at the entrance. It is only fair, however, that I should say why smoking at the entrance *seems* to me a good thing. First, as to the interruption and confusion Mr. Macdonald mentions, if the sum total of smoke be the same in each case, will not the interruption and confusion be the same?

If I am correct, when a hive is jarred, the bees rush out of the entrance to attack the disturber, and a little smoke at the entrance quiets these guards, whereas smoke blown over the frames has no effect upon them. Without the smoke at the entrance, they rush out at the first jar, flying about the head of the operator, where the smoke blown upon the frames will have no effect upon them. These are the very bees I want quieted, and that's why I want to quiet them at the place where they are easily reached.

Now this is the way it seems to me, and if I am wrong I shall be glad to be shown my error. C. C. M.

Language—In Beedom and Elsewhere

D. M. Macdonald sticks to his use of "nuclei-forming." Of course. He's Scotch; and the writer hasn't lived all these years under the same roof with three Scotch women without knowing what to expect from a Scotchman. He says in the British Bee Journal:

> "When I write of 'forming several nuclei,' why should I transgress against the rules of grammar and common sense by using the word for one when I mean a number more than one?"

In other words, he wants to know why he should say "nucleus-forming" when he is forming nuclei. Well, I suppose there is enough Yankee blood in me to give me the privilege of answering his question by asking another: "Why should he transgress—if it be transgression—by saying 'bee-keeper' when he means a man who keeps more than one bee?" Now if he will give me the answer to that question, I think that answer will serve as an answer to his question.

I do not insist too strongly on common sense, but as to grammar, that is supposed to follow the custom of the best speakers and writers, and I think on that ground it may be considered good grammar, in this case, to have the first word of the compound in the singular number, no matter how many are referred to. If Mr. Macdonald thinks "nucleus-forming" is not justified, then let him please say on what ground he justifies the following compounds: bee-keeper, cow-milker, dog-fancier, 24-horse-power, etc. If because he is forming more than one nucleus, he insists on "nuclei-forming," perhaps on the same ground he would insist on cows-stable, hens-coop, houses-building, doves-cote, slaves-driver, etc,

Then that Scotchman goes to throwing bricks at me by telling me of the bad English in use on this side of the water. Right enough; we do many bad things, but that doesn't make it right for us to do another bad thing that we know is bad; and we who are yet somewhat in the raw look for good examples from cultured men in the older countries. I confess with shame that I live in the land where "shook-swarming" was born, and am very glad to see that Mr. Macdonald repudiates it so far as to say he uses it only in quotation, and says it is un-English and not Scotch.

He says: "I remember a dreadful word coined over there—'queenright.'" Beg pardon, that was hardly coined here. It's a direct importation from Germany, being merely a translation of the German word, "weiselrecht." F. Greiner was the importer, I think, and at the risk of losing caste in Mr. Macdonald's estimation, I must say that I have felt indebted to Mr. Greiner. "Queenright" seems to be needed to express what otherwise can be expressed only by the use of a number of syllables. Will Mr. Macdonald tell us the shortest way otherwise to express a "queenright colony?" C. C. M.

MISCELLANEOUS NEWS ITEMS

A Japanese Apiary.—The picture on the first page shows that in Japan they have as neat and up-to-date apiaries as anywhere in the United States or other countries where modern bee-keeping exists. We believe this is the first picture of a Japanese apiary that has ever appeared in the American Bee Journal. We are sorry not to have a description of it, and also something concerning its owner, but all we received was the picture, which, of course, is interesting. Some day Japan will be heard from along bee-keeping lines, which will show that they have been catching up very rapidly in adopting ideas and methods of the newer countries.

◆

"Bee-Keeping in Dixie."—In this number we begin another new department, called "Bee-Keeping in Dixie," which will be in charge of Mr. J. J. Wilder, of Cordele, Ga. Mr. Wilder is one of the most extensive bee-keepers of the southeastern part of our country, having many years' experience. He will no doubt be able to give something of much value, not only to bee-keepers in Dixie, but also for those in other parts of the country. We would invite all bee-keepers who consider themselves in Dixieland to send their questions, etc., to Mr. Wilder, who will answer them in this new department, if of sufficient general interest; otherwise he will answer direct.

Owing to the large amount of important matter that seemed to be necessary to include in this new department this month, we had to put it in smaller type, being crowded for space.

◆

World-Production of Sugar.—The International Institute of Agriculture gives out the following information as to the sugar of the world:

> "The total sugar yield of the sugar-cane (*Saccharum officinarum*) in 1908 was about 5,161,000 tons, the production of beet-sugar appears to have been 6,527,800 tons.
>
> "Java, with Cuba, produces most of the cane-sugar, and the greatest producer of beet-sugar is Germany.
>
> "The production of maple-sugar in North America has greatly increased, but there is no hope of its extending greatly. It is the same with palm-sugar (India and Java)."

Bee-Inspection in Winter.—The question of inspection for foul brood in winter has been brought up in Colorado. One man's bees were inspected while he was absent; and several hives being declared foul were ordered by the inspector to be taken up. The owner resented the winter inspection, which had been made without his knowledge; but the work did not disturb the clusters, as it was carried on primarily to find any colonies that would be a menace in the spring. This inspection to find colonies that are dead from foul brood or infected will lessen the work in May, June, and July. No intelligent inspector will go into an apiary and open the brood-nests on cold winter days; but finding dead and badly affected colonies before there is any chance for robbing in the spring is a feature that will go a long way toward preventing the ravages of the disease later.—WESLEY FOSTER, in *Gleanings*.

◆

Importance of Ferments in Honey.—The Bulletin of the Association Chim. (French) says:

> "There are a number of diastatic, proteolytic and inversine ferments in natural honey, which give it its nutritive value. These enzymes are destroyed at a higher temperature than 70 degrees C., and do not exist at all in artificial honey."

According to the United States Department of Agriculture, these ferments continue to act after the honey is deposited in the cells, and it is a matter of importance to avoid destroying them by heat. Seventy degrees centigrade is 158 degrees Fahrenheit, and if honey be heated to 160 degrees, as is sometimes advised, it will be injured thereby. Perhaps it is wise not to go beyond 130 degrees.

◆

Honors to an Old Bee-Keeper.—The following is furnished by Mr. C. P. Dadant, who has visited the bee-keeper mentioned:

> At Grand Island, Nebr., on April 6, 1911, a reception was given in honor of Wm. Stolley on his 80th birthday and the 40th year of his services as Director of School District No. 1, southwest of the city.
>
> Mr. Stolley is one of our most practical bee-keepers; he is one of the original settlers of his (Hall) county, and it is said that his record as wise manager of the school in question is the longest in the history of the State of Nebraska.
>
> It appears that the entire school, many of the citizens, and the County Superintendent, managed the reception, which was an entire surprise to Mr. Stolley.
>
> In an address by Miss Kolls, the school superintendent, Mr. Stolley was likened to his bees—thrifty, industrious, generous—all his life has been devoted to providing not only for himself, but for others, as is evidenced by his great hospitality. But he had come there in time of strife, when the country was new, and, like the bee, he had learned to defend himself, which he was fully capable of doing when he knew himself to be in the right.
>
> Those of our bee-keepers who are acquainted with Mr. Stolley will heartily join in congratulations. May his example be followed, and each of us become an honor to the neighborhood where we live.
>
> C. P. DADANT.

We, too, have met Mr. Stolley at several National conventions, and are glad to give place to the foregoing; also to join in the congratulations.

◆

Manihot in German East Africa.—"The Bulletin of the Bureau of Agricultural Intelligence" gives the following:

> "The introduction of Manihot in Dahomey furnishes a new source of honey for bees. In July, when it flowers, the wild bees neglect the native vegetation and prefer the Manihot. The abundance of flowers and the prolonged blooming of the Manihot allow the production of Ceara rubber to be supplemented with that of honey and beeswax. It remains to be seen whether this honey originating from an Euphorbia has a good flavor."

This Manihot seems to have been introduced from South America. Does any one know anything of its value in this country?

◆

Early-Reared Queens.—Here is something from F. Dundas Todd's Bee-Bulletin for British Columbia that should be heeded as well by the inexperienced bee-keeper outside of King George's dominions:

> "Queens reared in a weak colony during fruit-bloom are of very little value, and are almost sure to be supplanted again in June or July, provided they live that long. There is also great risk that they will fail to mate on account of the cool weather. The writer has had queens hatched out in the end of April and do all right, but the instance is rather unusual. Most bee-keepers have little use for a queen that is not reared during the normal swarming season, or in the time of the honey-flow."

◆

Prices of Honey and Butter.—D. M. Macdonald says in the British Bee Journal:

> "Hereabout some years ago, 1 pound of honey would buy 2 pounds of butter. Nowadays 1 pound of the one about meets the cost of the other."

In this country, 40 or 50 years ago, it was the common thing for honey and butter to stand at about the same price, just as the rule is in Scotland today. Now, the pound of butter that will buy a pound of honey in Scotland will buy 2 or 3 pounds of honey in America. Queer world.

◆

Whey for Bees.—Dzierzon was rather enthusiastic about feeding milk to bees. Now comes from France the following:

Boiling water, 9 parts; fresh whey, 9; granulated sugar, 16; very fragrant honey, 5½; phenix syrup (whatever that may be) ½.—*L'Industrie Laitiere.*

German Honey-Booklet.—This booklet of 56 pages, published in the German language, has for its object the popularization of honey as an important food and domestic medicinal remedy. Some idea of the nature of its contents may be had from the headings of chapters:

What is Honey; Honey Adulteration; How to Recognize Pure Honey; To Detect Adulterated Honey; How Bees Gather and Prepare Honey; The Chief Sources of Honey; The Different Varieties of Honey; Honey in the Household; Honey as a Medicine; Honey and Wine; Recognition of Honey by Authorities; Bee-Poison as a Remedy.

The little work seems to be ably prepared by its author, Prof. Reinhold Michaelis, and is published at Leipzig at the price of 40 pfennigs, by Alfred Michaelis. That the work is appreciated in Germany is shown by the fact that this is the 4th edition.

◆

Old vs. New Section Foundation.—Frequently the question is asked whether it is advisable to use comb foundation in sections that has been left over from a previous year. Such foundation may be readily accepted by the bees, and it may be utterly rejected. G. M. Doolittle puts the matter very nicely in the following words in Gleanings:

> "The experiments I have made during the years which have passed since I began to use thin foundation in the sections have convinced me that foundation 5 or even 10 years old is just as good as when it first came from the mill, if it has not been on the hives during the latter part of the season through a period of scarcity. If sections are left on the hives after the harvest, and propolis enough is gathered so that the unused foundation is varnished over, this propolis-painted foundation should be cut out of the sections, melted, and replaced by fresh."

◆

Shipments of Mexican Honey.—The exports of honey from Tampico to the United States during 1910 amounted to 43,575 gallons, valued at $21,380 gold, an increase of about 66 percent over 1909, says Consul Clarence A. Miller.

The greater part of the honey is the wild product, and is brought in from the Huasteca section and Tuxpam. Among the flowers that are abundant are the century-plant and the "lion's tooth," which are much sought after by the bees. A species of mesquite known as algorroba furnishes an abundance of blossoms and a sweet sap, and the bees frequently hive in the hollow trees of this variety. The bees of this section are of the large yellow variety. The seasons for gathering honey are from May to July, and from September to November.—*American Food Journal* for February, 1911.

◆

Moving Bees Short Distances.—Until recently it has been considered an unsafe thing to move bees in warm weather unless they could be moved a mile or more. But by fastening the bees in the hive and then giving the right kind of disturbance long enough, it seems bees can be moved any time of year. Clint F. Pulsifer, in Arizona, had 40 colonies to move about 25 rods in warm weather. He says in Gleanings:

> I closed the entrances early in the morning before the bees were flying; placed the hives in the spring wagon, and took them to the new stands. This was done before 4 p.m., and at about that hour (which was about one hour before sunset) we began *drumming* them and smoking them alternately for nearly half an hour, then we removed the entrance-closers as speedily as possible and gave the bees a few moments' flight before dark.
>
> The following day I made it my business to visit the old stands several times and see if it was necessary to place hives there for the returning bees to save the loss, but it was quite unnecessary, for I think I could have carried them all in a Benton cage; and I have reason to believe that the few that were remaining had slept out of doors the night before they were moved.

◆

Bee-Keeping in Florida.—E. G. Baldwin says in Gleanings that in Florida the summer temperature is seldom higher than 94 degrees, and in winter seldom lower than 30 degrees. "Four-fifths of all the surplus honey produced in the State comes from the blossoms of nectar-producing trees or shrubs, *not* flowering plants."

◆

Bee-Keeping in Texas.—The following account of the doings of bees and bee-keepers in Texas, written by Wm. E. Curtis, is taken from the daily Chicago Record-Herald:

> With other distinctions Texas is the great bee-State of the Union, and produced more than 15,000,000 pounds of honey last year, valued at $3,500,000. While it is impossible to obtain definite figures, it is estimated that there are 600,000 colonies of bees in the State valued at $5,500,000, and it is known that they are increasing very rapidly. They are mostly Spanish bees, descendants of colonies that were brought over by early immigrants, and at first were kept in a primitive manner. Square board hives were used and colonies were often sacrificed in securing the honey. But, like cows and steers, the bees have been bred up and improvements suggested by scientific investigation, have elevated apiculture to a high plane and a profitable basis. Bee-keeping is so profitable that ordinary farmers have become specialists, and colonies are counted by the hundreds where there were only dozens before.
>
> The most favorable locality is along the Nueces River, where are vast areas of flowering plants and trees that are loaded with sweetness, and naturally the center of the industry is at the town of Beeville, Bee County, down in the corner of the State where the railroads from Houston and San Antonio meet, perhaps 30 miles northwest of Corpus Christi. The greatest apiary in the world is there, with 8000 hives of bees owned and managed by the same man. Beeville is the only town and Bee County is the only county, I suppose, that were ever named after the busy bee. The former has a population of about 3500, and the county of about 8000. More than 1,000,000 pounds of honey are shipped every year.
>
> It is a curious fact that bees insure large fruit crops. This is not a boom story, but a scientific phenomenon, and is due to the industry of the bee which, flitting from blossom to blossom in its work of gathering honey, distributes the pollen, fertilizing the blossom, thus assisting in the production of the fruit. That task is usually left to the breeze, which is never as reliable as the bee.
>
> There are large manufactories engaged exclusively in making hives, honey-frames, boxes for shipping honey, and other supplies for bee-culture which are not found in any other State, and bee-ranches are increasing so rapidly that it is difficult for them to supply the demand.

Mr. Curtis is one of the ablest, most experienced, and most reliable newspaper correspondents in the whole world. Yet, somehow, when it comes to the matter of bees, the general writer, be he ever so reliable, is likely to make slips, and while the foregoing is more reliable than one might expect to find from a writer not an expert in the matter of bees, still there is left room for question as to one or more of the statements made.

Take that last statement: "large manufactories engaged exclusively in making hives.........which are not found in any other State." It is hard to understand that as meaning anything else than that outside of Texas there can be found no large manufactory engaged exclusively in manufacturing things for bee-keepers. It looks asif some of those Texans had been stuffing Mr. Curtis, showing up the big amount of bee-supplies made in Texas without hinting as to the bigger amounts made elsewhere. Well, one can hardly blame them for telling all of the truth about Texas, but one can hardly hold guiltless so experienced a newspaper man as Mr. Curtis for not informing himself as to matters outside of Texas.

Mr. Curtis lays aside his usual shrewdness at careful investigation, and *supposes* that Beeville is the only town and Bee County the only county ever named after the busy bee. How far wrong that supposition is from the truth may be seen in part by reference to the United States Postal Guide, without looking up all the rest of the world. It may not be far out of the way to suppose that when a post-office is found having a certain name, as a rule a town of the same name will also be found. Besides Beeville, no less than 23 other post-offices are named presumably after the bee. Nine different States have each a post-office named Bee; 2 post-offices have the name Beehive; 2 are named Beecreek; and the following 10 post-offices may also be found: Beeranch, Beecamp, Beecaves, Beegum, Beehouse, Beelick, Beelog, Beespring, Beesville, and Beetown.

Evidently Texas has no monopoly of towns named after the bee; but it does have the distinction of being the only State having a Bee county.

Is not this the first time that the statement has appeared that the greatest apiary in the world is to be found at Beeville? Perhaps some one will tell us more about it, and will also tell us whether reliance is to be placed on the statement that every year more than 1,000,000 pounds of honey are shipped from Bee County.

◆

Pecos Valley Convention.—The annual meeting of the Pecos Valley Bee-Keepers' Association, of New Mexico, will be held at Rosswell, N. M., at 9 a.m., Wednesday, June 9, 1911. Business of importance will come before the convention. All lovers of the honey-bee are invited to meet with us.

R. B. Slease, *Pres.*
H. C. Barron, *Sec.*

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The Seven County Convention.—The Seven County Bee and Poultry Keepers' hold their semi-annual convention at Brookville, Pa., June 7, 1911, and they will be glad to have the readers of the American Bee Journal meet with them.

A. M. Applegate, *Sec-Treas.*

From following the instructive reading in the American Bee Journal for the year 1910, I have saved $25 on my bees.

Mrs. A. A. Good.
Arlington, Wash., Dec. 17, 1910.

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Bee-Keeping as an Avocation for Women

Some time ago I heard a man remark, "There's no occupation under the sun where women don't crowd in now-a-days." The man was mistaken. Women are not crowding in, they have long arrived and taken their place side by side with man, efficiently helping along with life's work. In one respect the man was right; there is hardly an occupation under the sun that woman has not or is not trying her luck with, and bee-keeping is one of the many. How far back there have been women bee-keepers, or how many there may be now, I could not tell; but I know that bees can be kept by women as successfully, financially and otherwise, as by men.

There has been much nonsense written in papers about a veilless and gloveless, as well as laborless, lucrative bee-keeping for women, children and invalids. Bees can be worked without veil or gloves, I admit, but the woman who embarks in bee-keeping with an idea of taking her fancy-work into the apiary and sit contentedly watching her bees gather the honey for her, will soon conclude that if she wished to realize the profit from them she is probably anticipating, she would better don veil and gloves and do some honest work, and do it when her interests demand it, and not only at times when the bees happen to be in the mood to be worked without antagonism.

When I was requested to write this paper on "Bee-Keeping for Women,' I found the only thing I could tell was my own experience as a woman bee-keeper, and this I have endeavored to do without any attempt at rose-coloring or discouraging.

When my father died, nearly 4 years ago, mother and I suddenly found ourselves with 225 colonies of bees on our hands, the principal care of which depended upon me. Although an experienced bee-keepers' daughter, I was disgracefully ignorant of the proper management of bees. Father had always had help to work his bees, and the honey-house work had been my share, and as I was about as fearful of a bee sting as of a snake-bite, I went near them as little as possible, and excepting a few times when I had gone out with father to smoke for him and do a little handling, I had never ventured into the bee-yards.

About the first thing I did was to get a pair of good, safe rubber gloves. They were so stiff my hands felt like done up in splints, and gave me more discomfort than a goodly number of bee-stings would have done. Fortunately they did not last long, but soon began to split and break. I have since found a thin leather or light canvas glove is best suited for the work.

The spring of 1907 was late and generally unfavorable for bees in our locality. Spring dwindling had reduced our number of colonies to about 200. Of these we moved 80 to an out-apiary on May 24th. Apple-trees were then just beginning to blossom, and the bees that had by this time become alarmingly light of stores, literally filled up during the bloom.

Some time later when I went to work this out-apiary, the first thing that greeted me on my arrival was an immense swarm of bees high up in an apple-tree. While I was lighting up the smoker and getting ready for work, another came tumbling out. I hurried to look for the queen, and back of me came another, and still another. The whole air seemed filled with swarms, and I felt like swarming out, too, and leaving the bees to their own sweet will! I found consolation, however, in the knowledge that I had faithfully clipped every queen's wings early in the spring, and that they could not get away from me no matter how hard they tried. I had read in a bee-book that it takes 16 days for a queen to hatch from the day the egg was laid. On this I relied. I went through my bees and assiduously ripped out not only every queen-cell, but every queen-cell cup that had anything in it resembling an egg. When on the 12th or 13th day after this I again visited the bee-yard, confident that I was getting around in plenty of time, I was painfully surprised to find many young queens hatched, and more swarms had taken to the woods or filled neighbors' dry-goods boxes than I would like to tell, and I indignantly concluded that there was something dead wrong and misleading about those bee-books. Had I pursued more carefully I would also have read that when bees have larvæ they will rear a queen in 10 days.

Early in July a sister came for a visit. For years she had been in the habit of spending the two months school vacation at home, and had helped father quite a little with the bees, and consequently knew more about handling them than I. After that things ran smoother.

The first summer was hard, and we made many mistakes. To make matters worse it was a poor season in our locality, owing to the extremely late spring and succeeding severe drouth. From our 200 colonies we harvested some over 6000 pounds of comb honey, and about 2000 pounds of extracted.

Miss Hettie E. Hoffman.

The season of 1908 again proved a poor one, owing to the same conditions of drouth as in the previous summer. But 1909, however, gave us a good crop of fine-quality honey.

I found that 200 or more colonies was more than I could properly manage with numerous other duties depending upon me, so we gradually reduced our number to about 170. From these we harvested, the past season (1910), 11,500 pounds of comb honey, and about 2200 pounds of extracted.

The work in producing these crops was all done by women, with the exception of putting the bees in and out of their winter quarters, moving them to and from the out-apiary, and drawing the honey to the freight-house when it was ready for shipment. For this work we hire neighbors.

Mother and I make all our supplies, including the comb foundation and extracting the honey. My only help in working the bees is my sister the two months she is with us. A 15-year-old niece assisted with the finishing of the sections the past season.

Bee-keeping for women, although a healthy, and for the most part pleasant, occupation, is by no means all easy work. To carry tons of honey from the hives into your honey-house, or bend all day over bee-hives, handling and shaking heavy combs, would soon scatter illusions to the winds, and probably end in prosaic back-ache and kindred complications for a woman not accustomed to strenuous work. For a woman to plunge into bee-keeping with the hope of at once deriving a competent income from it would, in most cases, end in discouragement and failure. If, however, she is content to begin with a few colonies, and study the habits and management of her bees before she ventures deep, she will in time find it a remunerative business. She will also find her endurance growing with her colonies, for cultured woman is but the weaker sex, because for centuries she has pampered herself, and allowed herself to be pampered. The peasant women of Europe who go into the fields and work, shoulder to shoulder with their men, are as strong as men, and the women of savage tribes are fully capable of performing the burden of the work thrust upon them. The practice of wheeling a 'barrow to and from the bee-yard is better exercise for gaining health and strength than swinging dumb-bells or subjecting the body to various contortions in physical-culture practice.

Remuneratively compared with other occupations, bee-keeping has its advantages as well as its disadvantages. A woman, able to work, can successfully handle from 125 to 150 colonies of bees with little extra help. In a fair season, if properly worked, they will net her an income quite a little ahead of her sister who teaches, or works in factory or store. But to the bee-keeper, every year does not bring a good crop. The season for the actual honey-flow is comparatively short, and if during these few weeks the weather is unfavorable, or as is sometimes the case, the blossoms yield little or no nectar, the crop will be short, or even a total failure, manage or work as faithfully as you will. Then there is capital invested, and the responsibility and risk of ownership, the burden of which the employer carries for the woman working for wages. But, while for the wage-earner, in most cases, it is an all-year-around, monotonous performance, for the bee-keepers, after a summer of invigorating outdoor life comes a period of rest, for while your bees are taking their long winter sleep they need little if any attention. Certainly the wise bee-keeper will get ready as many supplies during the winter months as possible, if he or she does not wish to be caught in a summer rush, that is anything but pleasant. But even this working ahead will leave plenty of time for rest and recreation.

The woman who keeps bees lives and works at home, and can attend to her household and family duties besides her bee-work, even though some minor details may be neglected during the busy season. There is much easy, agreeable work connected with the business that will keep the growing boy or girl out of mischief.

There is always a ready market for good honey. Dealers are usually looking for comb honey put up in neat, attractive packages, and properly graded. This work is especially adapted to women. The best way to dispose of a crop of comb honey is to ship it as early as it can be gotten ready for the market. Sell it outright for cash, if possible, if not, ship it to a reliable commission-house. Nearly all our extracted honey is sold at home. The honey is put up in 5 and 10 pound pails as soon as extracted, and allowed to granulate. The labels on our pails tell our customers that pure honey will granulate, and also give directions to liquefy the honey if so wanted, and we have yet to hear of a complaint of "sugared" honey.

The woman keeping bees can, if she will or must, do all her own work. A woman can not very well farm it alone. She must hire men to do the heavy work, and by so doing she becomes dependent.

While bee-keeping is not a "get-rich-quick" business, and probably never will put man or woman in "millionaires' row," it will provide a comfortable income for the right man or woman. It is an interesting, ever new and broadening study, bringing one close to Nature, and for the bee-keeper the every-day life easly becomes the ideal simple life.

HETTIE E. HOFFMAN.

Canajoharie, N. Y.

Miss Hoffman's delightful article puts things in such a common-sense way that it is easy to believe that it comes from real experience in the bee-yard. One point in it is likely to awaken controversy. When 200 colonies proved too many to take care of, along with what other work had to be done, was it wise to reduce the number as did Miss Hoffman? That certainly is not following the advice of our good friend of the Bee-Keepers' Review, whose slogan is, "Keep more bees." Would it not have been better to have hired help to do some of those "numerous other duties" that made 200 colonies too many? Very likely that would be so in many cases. With men it would oftener be so than with women. The work that a man finds to interfere with his bee-keeping can often be as well done by some cheaper help. But a woman's work falls largely in the line of home-making, and it often happens—generally happens—that if the home-making be delegated to some one else, the home will not be so home-like. At any rate, the sympathies of the present writer are entirely with Miss Hoffman in preferring to keep the number of bees down to that point where some time would still be left for home-making.

Miss Hoffman quotes the books as saying that when bees have larvæ they will rear a queen in 10 days? Is that really a well-established fact? Opportunity for very extended observation "in this locality" makes it pretty safe to say that when a colony having brood becomes queenless it will be 12 days before a young queen emerges, presupposing, of course, that no queen-cell was started at the time of becoming queenless. Occasionally that 12 days has become 11, but if there was ever a 10-day case, it escaped observation. Certainly the thing must be so rare as to be hardly worth taking into account.

[We may say further that Miss Hoffman's interesting paper was sent in by Mr. W. D. Wright, vice-president of the National Bee-Keepers' Association, who requested its preparation for a bee-keepers' institute held under the auspices of the New York State Department of Agriculture, at Utica, N. Y., Dec. 18, 1910. Mr. Wright also kindly secured and forwarded the accompanying photograph of Miss Hoffman. She is a daughter of the late Julius Hoffman, inventor of the "Hoffman frame," so well known to bee-keepers everywhere.—THE EDITOR.]

BEE-KEEPING IN DIXIE

Conducted by J. J. WILDER, Cordele, Ga.

"Bee-Keeping in Dixie"

Hello, Mr. Bee-keeper! We want to be recognized under the above heading, and take our stand for more or better bee-keeping in Dixie, and that some rays of light may shine forth from this dark and benighted corner of beedom.

Dixie is not only the "Land of Cotton," but is also the land of bees and honey, and opportunities for those who love the business and properly follow it. The bee-keeping world looks upon Dixie (all the Southeast) as the dark corner, because log-gums, box-hives, and the unimproved races of bees have predominated, and that bee-literature has been so slow penetrating into this great section. The dawn of better days is upon us, and to help hasten development of our industry here our bee-publications are giving more than the usual amount of space to this section. Wherefore comes our Department "Bee-Keeping in Dixie;" and our entire body of bee-keepers is called upon to contribute to our corner, and to render appreciation to the Editor of the American Bee Journal. To whom be thanks.

Departments of Beedom

I believe the editors of our bee-publications are more and more endeavoring to reach and help through the medium of their papers all classes of bee-keepers in all kinds of locations. Through them bee-keepers for miles around can obtain information of those in similar locations and under similar conditions. I am yet to meet a bee-keeper who had a cut-and-dried business. We are all on the alert, or grasping for helpful ideas, and through the departments they can best be obtained, as well as general information.

I used to think that different locations played but little part when it came to the practical side of bee-keeping, but now the more I know about bee-keeping at home and abroad, the more I am in sympathy with bee-keepers in different localities.

Then, too, it is often remarked, should the old contributors to our bee-publications consume so much space if fresh ideas could be obtained from many sources? I don't know whether they would be any better or more effective or not, but I do know that even a great number of contributors can never solve our every-day problems. They may give us a lot of general information, but this is only a small part, after all. It is the seemingly small, or less important, unnatural or unexpected occurrences that come up before us individually, while about our apiary work, that are most vital to our success; and here is where our reasoning powers must be exercised.

A Little Bee-Meditation

If all the printed matter on bee-culture I have ever read could be collected, it would indeed compose a very small library, and if I had my bee-keeping life to live over I would read less and think more. When it comes to success, much serious meditating is essential, and all other forces gather up around it. I am glad to say that I have met only a few who had made a straight-out failure at bee-keeping, and one in particular was a "book-worm." He never formulated any plans or solved any problems, yet he had read almost everything that had been printed on bee-culture, and was well posted; but when it came to the practical side of the business, he was a total failure, although he had considerable experience in the work. He had to consult the "text" on everything he went about to do, and had no confidence in himself or his own judgment, but totally relied upon what had been written on the subject.

Now don't understand me to say that we should not read bee papers or books on bee-culture. Far from it. We should by all means buy all that we are able to buy to read on the subject. O! how good, instructive literature brings us up to the thinking or meditating point! But right here it leaves us to put our own reasoning faculties in force. Especially is this true since the operating of apiaries is so widely different in different localities, and the management of the bees necessarily be changed to suit conditions which do not prevail in all locations.

A Discouraging Prospect

MR. WILDER:—I have always had good crops of honey, but it will be a total failure with me this year; and, besides, I may lose all my bees. I have only 100 colonies left, and about 100 bees to the hive. I am "up against" something I have never experienced or heard of before. My bees were blacks, Italians, and Carniolans.

Lumber City, Ga. W. M. ROGERS.

I wrote Mr. Rogers to unite and feed, and he replied that he was completely out of the bee-business, and said that the bees had stores, and, besides, there was nectar in the field. He said further that there were no young bees reared during winter and early spring, and that the old bees died out rapidly.

Mr. Todd, of New York, experienced about the same thing at Jesup, Ga., a few years ago, and I know of other similar cases. I have never experienced anything like it. In locations where my main honey-flow comes latest, the bees usually breed up too fast. I have quite a number during the year of what I call "suiciders," which seem to be determined and settled on going to nothing, but this occurs mostly among the weaker colonies containing old queens, but sometimes strong colonies will do the same thing—swarm out, and leave their brood and stores, and settle and perish, or attempt to enter another colony. Of course, the robbers will take possession of their stores at once, and the moth their comb. When I think a colony has started to dwindle down, I reduce the amount of comb to where they can cover it well, and I believe this does reduce the number of "suiciders." It is certainly safer under these conditions to have the queens occupy one or two combs well, than to occupy poorly a greater number. For fear of deserting I afterward unite, add brood, and requeen—even then the number of "suiciders" is great enough.

Sluggishness of queens at certain times, dwindling and deserting, are common occurrences, and bee-keepers are becoming more and more alarmed over the situation. I think it is time for the bee-keepers to rise up and say something on the subject.

The Next Honey-Flow

By the time this is read the spring or first honey-flow will be off, or passing off, and all honey should be removed and put on the market, and the comb or chunk honey supers not containing ready-built combs left off the hives and prepared to be given back to the bees at the approach of the next honey-flow, which we should begin preparing our bees for as soon as we can turn loose from the spring honey crop.

There are only a few locations in Dixie where the bee-keepers are not entitled to one or more good honey-flows before winter, and they are much surer than those in the spring, because weather conditions are usually better. But, alas! only a small per-cent of the bee-keepers harvest a crop of honey during these flows, simply because they do not prepare their bees for them. They seem to expect only a spring honey-flow, and as soon as they sell what little they harvest during this time they are ready for a vacation or outing, or lay aside bee-keeping and take up something else until next spring, when, of course, the bees, in a way, will naturally prepare themselves for the flow.

Now let us talk some about the stock of our bees before we go back to the unimproved bees. When I kept only the common, unimproved bees I, too, had only a spring harvest of honey, and now where I don't have the improved stock I get only a spring crop of honey. On the other hand, where I have the improved stock my summer and fall harvest about equals the spring harvest, and there a great difference in the return at the wind-up of the season, and the bees are in far better shape for winter.

I believe some bee-keepers are prejudiced against the common stock of bees, better known as blacks, and they have a reason for believing that they are most unsuitable for them. In locations where it is possible to have but one honey-flow, and that in early spring, the blacks are just as good as any bees. Some bee-keepers seem to think that the blacks can be greatly improved as honey-gatherers. I think this is hardly probable, because their queens will not breed up as they should after early spring. It matters not how much they are stimulated, they will lay only scatteringly about in the brood-nest, and here and yonder a bee will be developed. I have never known a queen of the black race of bees to compact the brood sufficiently to produce bees enough to harvest a crop of honey after spring, consequently the later flows pass off and are hardly detected, and the bees even go into winter quarters in poor condition, and losses are almost sure to occur. This point of objection to the blacks is hard to overcome, and stands good almost everywhere, and we are "up against it" when it comes to improvement.

Now for the unsupered colonies, the supers are out of the way and we are ready for a general inspecting tour from hive to hive, to see what we can count on for the next honey-flow. On this tour we will find some queens the services of which we are not pleased with, and the colonies with such queens should be marked and replaced as soon as possible with young queens of your own rearing, of the best stock obtainable, if you are in a position to rear them. If not, they should be bought of some queen-breeder.

Will it pay to requeen these uncertain colonies even if we have to buy the queens? It will, and there is no doubt about it. These colonies can be put right to the front in the honey harvest, and the first step is to requeen. The money invested in good queens at this point or time of the season will give greater and quicker returns than any other time of the year. All losses are sure to occur among the doubtful colonies at this season of the year; besides, the approaching honey stock is at stake. By all means requeen these colonies in some way.

"Where Can I Sell My Honey?"

By the time this edition of the American Bee Journal reaches its readers the bee-keepers in Dixie will have the bulk of their spring honey crop harvested and ready for market, and the question will be, "Where can I market my honey to the best advantage?"

There are some bee-keepers who are fortunate enough to have their entire crops of honey sold even before they are harvested, and the market or customers waiting for them. There is a much larger class of bee-keepers who have a list of customers, and an idea where they can at least dispose of a portion of their honey crop at reasonable prices, but for the remainder of the crop no ready market. I have been at this point in disposing of my honey crop more than once, and I have drummed from station to station, and from town to town, and have had mammoth exhibitions at fairs, and I have advertised extensively in the leading newspapers of my county, etc. Of course, these earnest efforts have greatly helped me in marketing my honey, but of late years I have fallen upon a more effective, sure, and satisfactory way of disposing of my crop of honey, and that is through the wholesale grocery houses. Such houses or establishments are found in every city, and in every town of any consequence or size. These wholesale provision houses have men employed, better known as drummers, who traverse the country for miles around, visiting weekly every retail grocery store whose sole business it is to sell eatables, or other things which are commonly found in grocery stores. And they usually sell along their trips everything that can be sold in their line. These drummers are experts when it comes to talking up a business and making sales, and right here is where we bee-keepers can be best represented.

Now, how shall we get them to take hold of the marketing of our honey? Go to the general manager of the wholesale grocery, take along a few sample jars or cans of your honey, such as you commonly put up (or a few sections of honey, if you produce it in this way), and show him what you have, the manner of packing, about how much you will have, and name the prices you will expect delivered to him. He will tell you that he will let his men take out the samples next week, along with his samples of candy, preserves, jellies, syrups, etc., and see what can be done. He makes a price, of course, allowing him a certain amount of profit, and sends the samples out with his men; they bring back a bunch of orders, and you will be notified at once to bring in so much honey, in such and such packages. The next week the same thing occurs, and so on until you have disposed of all the honey you have to offer, if you are not swamped with orders.

Very often these wholesale grocers will buy the entire crop of honey, and, as a rule, you can sell to them for better prices. Another good feature about this way of disposing of honey is, the returns are ready, and sure.

The Gus Dittmer Co., of Augusta, Wis., have completed a solid, concrete re-inforced beeswax melting house, with roof and floor of the same material. It will be a great addition to their comb-foundation plant, and, of course, entirely fire-proof. Like other manufacturers of comb foundation, they report a good season thus far this year.

CANADIAN BEEDOM

Conducted by J. L. Byer, Mt. Joy, Ontario.

Backward Season

The season is very backward here in Ontario—about three weeks later than last year, so far as the gathering of pollen by the bees is concerned, if I remember correctly. Today (April 20) one colony was carrying in a little pollen for the first, and strange to say not another colony in the yard was getting any, so far as I could observe, and I spent nearly an hour watching the bees at work.

Although a late season, after all it may turn out more favorable than last year, for although the weather in March and April of a year ago was very warm and springlike all the time, we paid for that favor later on when we had one of the coldest Mays on record.

From reports received so far, I judge that the bees have wintered fairly well all over the Province, both inside and outdoors.

Moving Bees on Hand-Sleds

On page 103, mention is made that the writer last fall successfully moved an apiary on hand-sleds. After the moving of those bees was accomplished, we certainly thought it was done successfully, and so reported in one of the bee-papers, but I am sorry to have to report at this later date that, on the basis of the old saying, "All's well that ends well," the moving was not a great success. On the day of moving the weather was cold—nearly down to zero—and the following night it was below that figure. The next 3 weeks was the coldest spell of the winter, and these unusual conditions doubtless were adverse to the best interests of the bees that happened to be moved in such very cold weather. At the time of moving the colonies seemed to be disturbed but very little, but conditions, as revealed later on, showed that they had broken cluster more than I had imagined. About the end of February a few colonies showed signs of dysentery, and up to the present some 8 or 9 colonies have died, and about that many more are reduced in bees.

On examination of the hives in which the bees perished, conditions seemed to point to the fact that the clusters were broken up by the excitement of being moved, and that owing to the very cold weather prevailing at the time many bees failed to get to the clusters again, and perished in small bunches among the combs. At least 3 colonies of the number that perished had division-boards in the hives for the purpose of crowding the bees into closer quarters, as considerable feeding was necessary to put them into shape for winter. Well, behind these division-boards the dead bees were piled on the bottom-boards about 2 inches deep, a circumstance that seems to point to the theory of the bees failing to regain the clusters.

As the loss in wintering is practically *nil* among all the other bees in the 3 apiaries away from home, I am at a loss to place the cause of the poor wintering at the yard that was moved, unless we attribute it to the moving done in cold weater. Yes, I know that many bees have been moved in cold weather with no bad results, and I have moved bees in that way myself in times gone by. But this last fall and winter was a very exceptional season, in that the bees had no flight after Oct. 26, and then not in the spring until March 13.

Temperature of Cellared Bees

The writer declines being drawn into a further discussion of the question of temperature for cellar-wintering of bees, even if Dr. Miller has so carefully and enticingly baited the trap—see page 110. As I have repeatedly said, my experience is so limited in cellar-wintering that I deem it unwise to make any personal recommendations in the matter, and prefer to be rather a "free lance" when speaking of the subject, and simply give the views of the "other fellow."

Mr. Davison is well qualified to speak for himself, but, unfortunately, like many more good bee-keepers, he declines to write anything for the bee-papers. His bees have wintered perfectly again this year, as is about always the case with his system of management, be it good or bad.

As to his thermometer being faulty, I can not give anything positive on that line, but as he keeps a general store and has thermometers for sale, it seems reasonable to assume that he would have a correct one for himself.

The writer would not think of advising all to keep their cellars at that figure (35 degrees), even if it would be only beginners likely to be affected adversely by such advice—certainly the "old birds" rarely take *anybody's* advice very seriously until they have found by experimenting on a small scale as to whether said advice is sound or not. But Mr. Davison's continued success with a cellar much cooler than ordinarily recommended, does at least prove that for *his* management and for *his* bees and cellar, the lower temperature is decidedly to be preferred, as after many years' wintering he has proved that his bees are the quietest at the figure named, and come through the winter in grand shape every year. To my mind there is no question but that the open window is one of the prime factors that insures good results in a cellar that is for some reason much warmer than those of the ordinary run, and I am quite ready to agree with the Doctor, that in a cellar with a temperature so low as mentioned, with no open window, quite different results would be apt to occur.

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

"The Battle for Honey"

Some time ago the editor of this department received a copy of an article with the above title, which appeared in "Orchard and Farm, Combined with Irrigation," published in San Francisco, Calif. It was written by one of our well-known writers, and one of whom much has been said of late—one whom the writer is proud to see in the field of apicultural writers. But there is a question that I would like to ask after reading the following paragraph, which was taken from the above-mentioned article:

> "This battle for honey is becoming more and more a winning one, as is evidenced by the hundreds of cars of honey shipped out of the West to Eastern markets. *California leads all States in the production of honey, and Colorado comes a pretty close second,* while New Mexico, Arizona, Utah Nevada, Idaho and Wyoming all produce more honey than is consumed within their borders. Alfalfa is the chief source of honey in these States, except in California, where sage and orange blossoms combine to put *California clear to the front of all other States.*"

Now here is the question: Where does Texas come in for her place? Can it be denied successfully that the great Lone Star State—the State that has had more good honey seasons on the average, and a larger output annually from within her vast proportions and area—is not and has not been entitled to first place? According to the above, she does not even come in for second place—in fact, the readers of the article are led to believe that Texas is not even a honey-producing State at all!

The italics above are mine. At the time it seemed ridiculous to mention the matter, and the article was mislaid for some time, but when it came to light again, and I read it over, I began to wonder how it was possible that we little fellows, who have been doing some big things for a good many years, should be overlooked entirely, as is shown by the above paragraph.

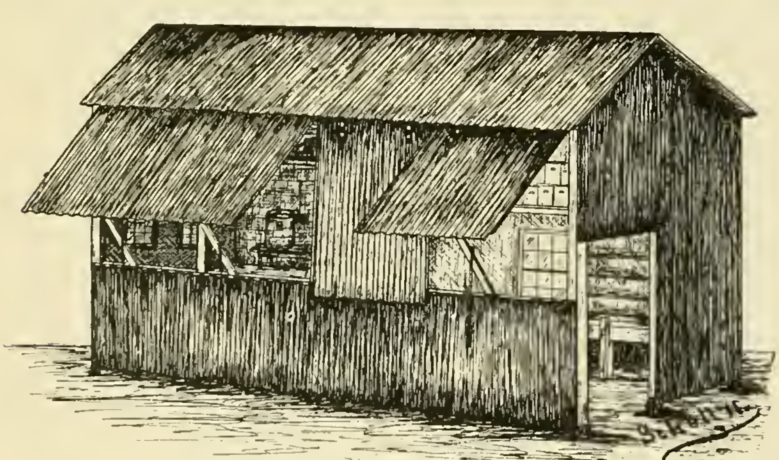

Fig. 1.—Scholl's Everlasting Fire-Proof (and Yet Cool in the Hottest Weather) Combined Honey-House and Work-Shop.

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A Texas Work-Shop and Honey-House

In the last issue I promised that I would show how my shop and honey-house looks, where I spend much of my time when I am not able, on account of bad weather or otherwise, to attend to the bees in the apiaries. I think a great deal of this honey-house, because it is the only one of its kind that I know of. Although the house is not built on as fine a style as I might have built, yet it serves the purpose admirably, and it is really the principle of the different working parts that make it up, of which I pride myself.

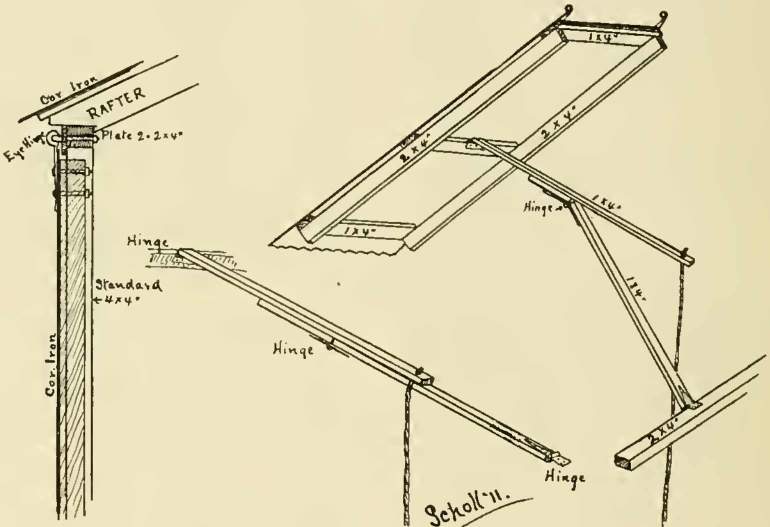


Fig. 2.—Detail of Shutter-Construction.

The picture of the entire house in Fig. 1 shows that it is constructed entirely of galvanized corrugated iron-roofing on the top and sides. The frame-work of the house is built out of cheap lumber. This, together with the ease with which such a house is constructed, make it quite a deal cheaper than many of the houses that have been illustrated. This has been quite an item with me.

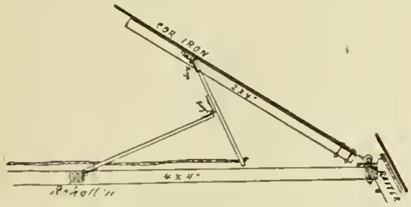
One of the first presumptions would be that a building entirely covered with metal of the kind used by me would make a very hot building in which to work during the summer time, and very cold in the winter. But this is not the case with my house, due to the peculiar construction of the south and southwest end and side of the building. The view is taken from the southwest, so it will be seen quite readily that the south breeze, of which we have an abundance almost at all times during the summer, passes right into and through the house, going in at the large openings provided for this purpose, and out of the windows at the other end.

This is obtained by the peculiar construction of the large shutters which are more than one-half the entire wall-surface on the southwest side of the house. To give the reader a better understanding of the working method applied on these two more drawings, Figs. 2 and 3, are given. These show how the extending arms that hold the shutters out in the right position, can be made to fold up underneath them, much like the tongue of a bee folds underneath its head. The principle is the same exactly.

When it is desired to have these shutters open, a pull at the ropes forces the arms out and opens the shutters. If they are to be closed, with a light push under the folding arms, while the other hand holds the rope firmly, to prevent the shutter slamming down too rapidly, the side of the house can be closed. Since there are 4 of these shutters, any part of the side of the building can be opened as desired. For this reason it is a cool building during the summer time, and, being well protected, with the windows closed on the north side, it is also a warm building in the winter.

I also show you a cross-section through the entire length of the building. First, we enter the shop where I have a suitable work-bench and shelves for a complete set of all kinds of tools that are so necessary in the bee-keeper's work. From this shop I have ingress to the space underneath the other half of the building, designated as the vinegar and storage-room. This opens the entire width of the building into the work-shop. If we go up the steps shown in the work-shop, we go through a door in the screened wall of the extracting and honey packing room. From this we can go up into the honey-can storage-room above, and again from this latter into the out-of-the-way storage-room still further on.

I have considered the matter of getting as much under one roof as possible, and that for two reasons: First, to save on the cost as much as possible; and, second, because I believe in having everything as handy as possible, and that is obtained by having all these things under one roof as I have arranged them in the construction of the house here shown.



3.—Shutter Mechanism Partly Closed.

Since I have been in many and many a sweat-box that was called an extracting-house or a work-shop, before I built this one, I decided then and there that I would never tolerate such a thing on my place or in my work. I know that more can be accomplished when the operators can be comfortable when doing their work than if they are required to kill themselves in some ill-suited, make-shift-of-a-shack so often used by many bee-keepers.

Then, the matter of having the workshop and the honey-house combined under one and the same roof, was considered as against the one being separated from the other. But since it becomes necessary so often that certain work must be done that would cause a great deal of running from one to the other, I have decided upon the plan here shown. Although the two are under one and the same roof, they are not together, as it were, but separate. I do not like to have the two united in one room, nor the same room used for first one or the other, or both, as this is very unsatisfactory.

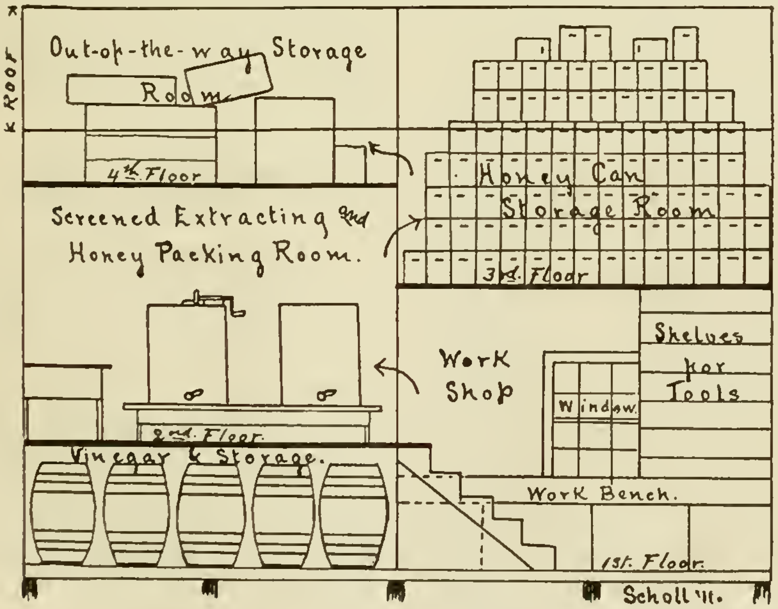


Fig. 4.—Cross-Section—Showing the Four Floors of Scholl's Honey-House.

Since I have the honey-house part of the building elevated a little higher than the height of my honey-wagons (to save lifting the honey when it is brought in from the apiaries, or when hauled out to be shipped away), there is left some room underneath this, making a nice storage-room for whatever is used in the shop; and as access to this portion of the building from the shop is on the same level, and easy, it is very handy.

The same holds with the connection between the extracting and packing-room, and the can-storage room. The honey-cans can be gotten down from this place very easily whenever they are wanted, as the entire width of the building is left open at the place where these two rooms meet. For anything that we do not need so often the uppermost room is used.

The entire building is 14 feet wide and 24 feet long, by 18 feet high. These dimensions can be either increased or decreased as the demands of the bee-keepers' needs require. Such a building has served my purpose for several years, or up to 300 colonies. I could use a larger house now, since I have spread out with an added number of apiaries, but instead of doing this, I will build another house just like the one at another place, to take care of part of the yards there. I term this place my sub-headquarters and take care of a circle of yards from this point that are too remote for the house at home. In this way I save a great deal of extra hauling and driving, which, especially when long distances are taken into consideration, means a great deal.

CONVENTION PROCEEDINGS

The Ohio State Convention

The second annual convention of the Ohio State Bee-Keepers' Association met in Cincinnati Feb. 16, 1911, and elected the following officers for the ensuing year:

President, D. H. Morris, of Springfield; vice-president, Frank Hammerle, of Hamilton; secretary, A. N. Noble, of Springfield; treasurer, Chas. H. Weber, of Cincinnati.

Executive Committee—G. G. Lingo, Wm. Schmees and C. A. Brooks, of Cincinnati; J. G. Creighton, of Harrison; and Fred W. Hammerle, of Hamilton.

Owing to the desire of the majority of the visiting bee-keepers, the meeting was limited to the first day. This necessitated the curtailing of the program, and omitting "Visits to Points of Interest," which had been set for the second day.

The members engaged in some very spirited discussions, owing to the fact that this convention was the first State meeting held since 1888, in Toledo, O.

Papers were read by the following: Mr. C. H. Weber, on "Shipping Comb Honey to Market;" Mr. Chalon Fowls, "How to Increase the Demand for Honey by Building Up Trade at the Groceries;" and Mr. E. R. Root, on "Modern Methods of Extracting Honey," and "American Foul Brood Differentiated from European Foul Brood," which were very interesting and instructive.

Mr. J. G. Creighton read a paper on "Foul Brood In and Around Cincinnati," giving an insight to the disease of 20 years ago, and up to the present.

At the evening session Prof. N. E. Shaw, Chief Foul Brood Inspector of Ohio, held his audience spell-bound by a chart prepared by himself, indicating the "Alarming Situation of Foul Brood in Ohio," which practically showed that one-third of the State is infected with the disease. However, he promised that if sufficient funds should be forthcoming by an appropriation from the State Legislature for this work, to be able to change the map considerably. Bee-keepers from the entire State should assist him by urging their State senators and representatives to vote for the necessary funds required for his valuable work the coming year.

Mr. E. R. Root's stereopticon lecture on "The Value of Bees in Fertilizing Fruit-Blossoms," was very instructive to both bee-keepers and horticulturists. He showed how these two industries are co-partners in fact. One could not exist without the other.

During the day session the co-operation of bee-keepers with farmers, to preserve sweet clover and promulgate its culture for the benefit of both, aroused great interest.

Red clover queens and how to get the most wax out of a given quantity of cappings were explained in detail.

Taken as a whole, the convention was a success. The next convention will be held in Springfield, Ohio, Thursday and Friday, Feb. 15 and 16, 1912.

Henry Reddert *Sec.*

CONTRIBUTED ARTICLES~

Improvement in the Honey-Bee

BY E. S. MILES.

After deciding which our best colonies are, comes the question of how to rear our queens from them.

I do not profess to know much about queen-rearing, but 15 years' experience has convinced me that natural-swarming cells are the poorest of any. Not that a large part of them will not be good, prolific queens, but for some reason I do not understand, a good strain of bees will degenerate by that method, while improvement is also impossible by it.

There are several good methods of artificial queen-rearing, but I think there are a few principles we must observe in all to insure success.

First, there must be plenty of food and heat. The first can be supplied by feeding if there is nothing to be gathered, and the latter is generally insured by having very strong colonies for rearing the queens. If one can find a colony wanting to supersede its queen at the time we want cells, that is a good place, usually, to get good cells.

I prefer artificial cell-cups, as they make cells so easily handled. I also have a notion, though I can not prove it, that cells made from light wax give lighter-colored queens than from cells on black comb.

I would not recommend the ordinary run of bee-keepers to attempt to rear many queens except in hot weather, and while there is plenty of nectar and pollen in the flowers.

If I can not find a supersedure colony at the proper time I use the Doolittle method, except instead of a story over an excluder I use queenless and broodless bees. One can take some colony that does not promise much for honey, if there is such an one, and unless the weather is very hot, it should be strengthened with brood so as to be strong in young bees when the time arrives for cell-building.

When we have the cell-cups ready, and a cell or two to furnish royal jelly for the batch we propose to start, we go to this colony and take away all brood, having previously made it queenless a few days before, and here we can get our royal jelly if not otherwise provided.

We leave it at least 2 combs of honey and pollen, spread apart far enough for the queen-cell frame to go between, and fill out each side of the hive with empty comb or sheets of foundation. Then we graft our cells from our breeding stock, and place in the center of this prepared hive, and leave them until they are ready for the nuclei. If there is a good honey-flow these cell-building bees will fill up their combs, and may need some taken out and other empty ones put in.

When the cells are ready to hatch, we put them in nuclei of 1 to 3 frames, according to the weather and our stock of combs of brood. We think it better to put in not less than 2 frames of brood well covered with bees in each nucleus. We dent the comb directly at the top edge of the brood with our finger, and press the cell in so that the lower point of the cell is just at the upper cells of the brood, and place combs in the hive with the queen-cells in between the combs. This is to insure the bees clustering on it at all times. If there are doubts of the first night or two being warm, we shut the nucleus up tight, and leave it for 24 or 48 hours in the honey-house. Usually we close the entrance 24 hours or more wherever we set the nucleus hive, when the young queen will be out and the bees will stay.

If we have a colony we wish to requeen, we set a nucleus behind such colony with the entrance at right angles to it. After the honey crop is off, kill the queen to be replaced, and two days afterward change places with the nucleus having the young queen of good stock. The next day go to the old hive, which now sits behind the nucleus, and after smoking sharply at the entrance take out enough frames to fill out the nucleus, and fill out the nucleus with them. Just slip the dummy over to the side, and set the frames of brood and bees quietly in, and close the hive; it should not take over a minute or two, and I have done it when robber-bees were extra bad, and never lost a queen that way. I then have a better colony than ever for the fall honey-flow, if there is one.

If a little increase is wanted, by having a few extra queens, the combs that are left can be given to them, or they can be tiered up over any suitable colony. If we can get our young queens reared and mated before the swarming season is over, in case one wishes to run any undesirable colonies for section honey, and they swarm, just place the nucleus containing the young queen on the stand that cast the swarm, after removing the old hive to a new stand, and hive the swarm in with the nucleus. With this operation our queens must be clipped so as to catch the undesirable queen and dispose of her.

The nucleus can be filled out with starters in brood-frames, and given the supers from the old hive, or new supers, according to circumstances. In practicing this latter plan it is advisable to have the young queen laying a week or more, and have her clipped, as occasionally one may swarm out or attempt to abscond. They should, of course, as all swarms, be well shaded, and given plenty of room and ventilation for the first few days.

Now, our success in improving our bees lies partly in being able to rear good queens, but unless we pick the right stock to breed from our success will be limited. What I wish to call attention to is this: Suppose we have in our apiary 3 or 4 colonies that appear to be about equal, and all seem fit for breeders. Now we might rear all our queens from one of these, and 50 percent of them may not come up to the qualities of the parent colony. We might take another of these colonies, and 75 percent or more might have the qualities of the parent colony. In other words, some one of these apparently equal colonies may be a great deal more prepotent in the traits we desire to perpetuate. I know of no way to find this out except to select the most promising young queens and test them by breeding one batch of cells from them the first year, or as soon as we can see that they may be fit for breeders.

We must judge a queen largely by what her queen progeny will be, in breeding for improvement. If we find one whose progeny is holding the traits well that we want, we can then breed largely from her.

I find it takes about all of the life of a queen to test her rightly for breeding. We have to keep her over one winter to test her wintering qualities; and one season to test her for building up in the spring and honey-gathering, non-swarming, etc.; then by the time we take our first batch of cells, she is 2 years old. Then we need at least one season to judge her first progeny, which brings us to her third year. So we really have only the fourth or last year to use her for a breeder. I have had none live over the fourth year, and would not want to breed from anything shorter-lived. It seems reasonable to think that long-lived queens would produce long-lived workers.

In writing the above, no consideration has been given the drone. Let each one do what he can to hold back undesirable drones, and let all good colonies rear a reasonable number of drones. If we can not directly control the drones, let us do what we can.

Dunlap, Iowa.

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Various Apiarian Opinions

BY O. B. GRIFFIN.

It is interesting to see the differences in opinions held by different members of a profession regarding ways of doing things. I hardly think these differences are any greater among bee-keepers, but being a bee-keeper I think I notice them more. I would not be much surprised if it is some time proven that getting used to a certain race of bees, a particular kind of hive or appliance, or some method of procedure, largely influenced us to believe earnestly that particular one the best, or only one, according to our differing temperaments. Then, again, I come back to my personal view, that locality does make a difference.

It seems to be my lot to be on the "off side" much of the time. Not because I like argument, or am like the man "drawn on the jury," who found on the panel "eleven of the darnedest contrary men he ever met." It is a little easier to drift than to swim, but one does not always get quickest to the shore he seeks in this way.

Black Bees and Wide Frames.

I am not wholly alone in preferring the black bee to the Italian—certainly not in this country; and it seems there are some who prefer the wide frames for holding sections, in comb honey production, as well as myself.

Like Miss Candler (see American Bee Journal for November, 1910, page 351), I very much prefer the wide frame for holding sections, over any other way I ever tried, and one of the chief reasons is that the sections are kept so much cleaner, and are freed from propolis, etc., so much quicker and easier than those taken from the T-super or section-holder.

Now I will make this plain, so that I will be perfectly fair in this controversy. My supers are not the regulation T supers, but have wooden slats for sections to rest on instead of tin. This may make all the difference, though I can not see why it should. This can not be my fancy alone, for I often have some of the neighbors help me in cleaning up the sections for market, and without exception they are very glad when we get to work on sections taken from wide frames.

I have tried Dr. Miller's way of cleaning in a body, but I am not a success at it. I find no trouble to remove sections from wide frames, and can do it much quicker than I can take the same number from a T-super, unless I take more chances in breaking honey in T-supers.

Another reason for preferring wide frames is that separators are nailed to the frames, and never have to be handled separately from the frames. Then, again, I find it much handier to set aside, in another super, a frame of unfinished sections, than to handle four sections separately. In using for bait-sections, one frame is placed in the center of the super without being disturbed.

My frames are ⅜ inch thick; top and bottom bars are 1⅝ inches wide, and end-bars 1⅞. When honey is coming in freely, if not left on the hive until late in the season, the sections will need but little cleaning. Miss Candler need not hesitate to try frames ⅜ inch thick, though I think it would make little difference.

This is the first time I have taken the opportunity to disagree with Miss Wilson, and I trust she won't accuse me of contrariness.

Origin of Honey-Dew.

There is one other thing I feel very sure of—all honey-dew is not the exudation of insects. Twice in my bee-keeping years (19, all told) I have had a flow of honey-dew. Both seasons were exceptionally dry, and the flow of honey-dew came at the very close of the season, late in August. The honey was very heavy, thick, dark-colored, and was much liked by some, while others cared little for it. Some preferred it to any other honey they had ever eaten. The last of the flow was thinner, darker, and much inferior in quality. I feel safe in saying that the source of this honey was the beech-trees. The forest growth here is mostly a mixed growth of beech, birch and maple in the hard woods. The leaves of the beeches were covered with it, much as if covered with a light shower. Bushes and the branches of other trees that extended under the beeches, and even rocks and logs, were covered in the same way; while other trees not 20 feet away from the beeches showed no signs of it. It simply could not have been insects in this case.

The bees worked early and late, and but little in the middle of the day. Some 40 colonies stored nearly a half ton in the sections, besides filling up the empty brood-frames. My winter losses following that season were about 90 percent. Bees were wintered in the cellar, and were without a flight for 5 months.

One interesting sight observed by me during this flow was a shower of honey-dew. This I witnessed about 5:30 o'clock in the morning. The sun had just risen, so that standing in the woods, looking toward the sun, the branches of the trees shading my eyes, I noticed a fine shower falling out of a clear sky, which I at first thought to be dew, but which, on investigating, I found to be honey-dew. Leaves, stones and logs were wet with the substance, and when I repeatedly applied my tongue to the surface of these, I was as thoroughly convinced of the sweetness as if I had tasted honey.

If I ever pass through another flow of honey-dew I shall make some very careful notes for the benefit of the fraternity.

Aroostook Co., Maine.

Bee-Keeping and Good Health

BY F. B. CAVANAGH.

A good deal has been said lately regarding the healthfulness of bee-keeping and stings; perhaps more particularly the latter. In fact, the casual reader might be inclined to believe that the more bees kept the greater would be the degree of health attained, should he combine the writings on health with the popular advice to keep more bees. However faithful and true are the writings on this subject, it is true that there are certain elements entering into extensive bee-keeping which are not conducive to health, and bee-stings and hard work are not among the least of these.

Do you, my amateur bee-keeping friend, ever stop to consider what the difference might be between keeping a few colonies for diversion and pastime, and of being crowded with the overwhelming rush of work which the specialist has at certain seasons to endure? With you it is fresh air and an agreeable change; with the specialist it becomes a daily grind and routine. In all this routine is the fascination of seeing success in sight, which leads men on to exertions which are often injurious to health.

The rush season of the honey-flow offers the greatest menace in this manner to the extensive bee-keeper. With a multitude of details to plan, and hired help to arrange for, he arises early, rides perhaps 5 or 10 miles to an apiary, and after doing a big day's work reaches home late in the evening. The successive days are repetitions of the first, for with half a dozen apiaries to visit he must finish at least one yard a day, so that it will be safe to leave for a week, at least. There is honey to be extracted, and swarming to be controlled, concurrent with all the complications which are prone to occur should there be an unusually heavy flow in all yards at once. Under the excitement of the honey-flow the bee-keeper essays to keep up; he does keep up, in fact, although working under a terrible strain and fearful odds, the result of which he is bound to realize years after the honey-flow has been forgotten.

A few years ago much was said about "lightning operators," and I confess that the idea took strong effect on me at the time, but what was the result of these fantastic maneuvers? Well, in the majority of cases we were no doubt left to surmise the effect on the operator after continuing this lightning work for a time. Neither are we told how much honey these extra-swift crews extracted the day following the one on which they made their record. However, we have a few examples of what such exertion can do for a man, as well as some others, who will admit as they read this that they have been injured in the same manner by trying to do two men's work. Harry Howe and some of the Coggshalls of New York could, I believe, tell what this sort of thing continued can do for a man. Yes, and I also have seen a little too much of it, although I am beginning to gain a little sense in the matter, at least.

Continued over-exertion is followed by weakened nerves, and incapacity to continue the pace which ambition or pride in excelling has set. A prominent bee-keeper once said to me that the shipping of bees shortened a bee-keeper's life. After going through the ordeal several times I agree with him perfectly, and it is certain that many bee-keepers are accomplishing the same result by trying to do all of their work alone, when they have more bees than one man is able to care for. Nature has given us a reserve force which may be drawn on rapidly or slowly, but which should never be depleted. Exhaustion is the danger signal which reads, "Stop, and take rest and refreshment." Will we heed it, or will we, under the lash of enthusiasm, whip our poor, tired bodies on to their final destruction?

There is a better way to succeed than to break one's health down through overwork. In fact, such procedure is itself the ruination of success. That way is to take forethought for the future, and to plan properly during dull days the work of the inevitably busy future. How best to reach our apiaries, what machinery to install, and what help we shall employ, are questions which should be carefully planned ahead of the busy season, in order that we may be able to accomplish what we formerly thought was a big 10 hours' work in the short space of 6 hours.

Arrangement is only second in importance to equipment in an apiary, and the *order* of manipulation is vital in attaining speed. The apiarist should know in advance of the rush season just where each piece of machinery is to stand. The arrangement, as a rule, will be, capping tank, extractor and strainer; situated in order at the left of the door on entering. A system should be worked out which is as effective and as economical of mismoves as is that employed at the slaughtering houses in Chicago. By so doing we shall accomplish the work more quickly, leaving the operators time for rest and to plan better the following day's work. With shorter hours, the work may, in fact, be better accomplished, the bee-keeper is more fit to manage, and the hired helpers feel encouraged.

In our apiaries, as in many others, young men are employed who have in view a bee-keeping future, and who are consequently students of bee-culture as well as helpers. It therefore becomes us to be able teachers, giving these young men an inspiration to be capable in their calling; to make the work interesting by the use of new appliances and the application of new systems. Neither should this be considered in the light of a philanthropical move on our part, for the adoption of these features are in themselves our most profitable moves.

This is an age of general science and invention, in which bee-keeping is at least a close second. The reversible power-extractor, steam capping-knife, melters, and not least the modern hive and equipment have made it possible to handle thousands of colonies almost as easily as we could otherwise manage hundreds. Science has made the pursuit fascinating, so much so in fact that unless we exercise good judgment we are apt to be lured on to over-exertion. This should be strictly guarded against, however, and, with the proper use of modern machinery, it becomes unnecessary.

Instances are frequent where bee-sting poison has been beneficial in curing certain forms of rheumatism. So much has been said, in fact, that the reader is led to overlook the fact that this poison may do serious damage to the system. Doctors with whom I have talked say that this poison is hard on the tissues, affecting the pericardium or membranous lining of the heart. Several cases have been reported in which the bee-keeper has suffered from an overdose of this poison, be it formic acid or otherwise. The amateur bee-keeper is in little danger of receiving into his system a harmful amount of this poison, although at times he is liable to *think* the results very bad. The specialist, if not careful, is, in time, liable to get an amount which is injurious to health. Once the system is inoculated with this poison, it is said that the effects are more or less of a permanent nature, so that it becomes us to be very careful in this matter. A good veil costs but little, and a careful system of handling bees, so as to avoid stings, costs nothing. Often, no doubt, the operator is affected with this poison, and the discomfort is attributed to other causes. At any rate, there is nothing to be lost, while perhaps much may be gained, by being careful in this line.

Finally, we should temper the doctrine of keeping more bees with sound judgment in the employment of our energies, accomplishing an increased amount of work by the means of better facilities and a more expedient system. Cut in two the time spent on the road, by the use of the automobile; the labor of extracting with the power-extractor, and kindred labor-saving devices. Work hard and fast at the apiary, for languor at work will never bring out the best that is in a man; but shorten the hours of labor to the increase of the rest period. If you must draw rapidly on reserve forces, give Nature time to recover before beginning the new day's work. Install the best of modern labor-saving machinery, and keep bees enough to pay for the added expense. Be a big enough man to handle it all, or else do not attempt so much, for it is better to handle a few bees well, and to succeed at the business, than to attempt to handle many, and fail.

Hebron, Ind.

Novel Bee-Hives in Scotland

BY D. M. MACDONALD.

Bee-keepers are always on the lookout for some new thing in the way of hives. When to mere novelty is added a claim that the invention will help to eliminate swarming, a new interest is taken in studying it. No one will deny that the hive shown on first page has the grace of novelty, and a strong claim is put in by its inventor that by its use he can control swarming. The finished product is the fruit of long study and experiment, and it has come to its present state of perfection by gradual evolution. Several Scotch bee-keepers have near the entrance of their hives a sloping approach by means of which the bees find entrance to the brood-nest, not by the orthodox method of an opening in the front wall, or a sunken entrance in the floor-board, but by an interior slanting floor below the true floor-board. Thus the real front door may lie forward 2 or 3 inches beyond the hive front.

Some of them believe sincerely that several advantages are derived from such an entrance. In windy weather, when the bees approach heavily laden, they secure a safe haven of rest in this vestibule, instead of being buffeted about on an exposed flight-board. As the sun does not strike in such a way as to allow its rays to penetrate into the hive interior, the bees are not tempted out to suffer, it may be, an untimely death and burial on some bright day when the ground is coated with a depth of soft, powdery, newly-fallen snow. Such entrances may be easily made mice-proof in winter, and other vermin may be excluded easily.

Acting on this principle, the inventor of this hive gradually extended this slanting entrance until it finally has been placed about two-thirds of the way back from the hive-front. A glance at the illustration will show that the entrance has become enlarged until it has been converted into a wide funnel, contracting pretty sharply until at the true entrance it is only about ⅜ inch by about the full width of the hive. But—and this is a most important feature in swarm prevention—the owner has the means, by the use of a slide, of dividing his bees in such a way that the principal force is directed to whichever part of the hive he desires they shall work in. Thus, if one division becomes too strong, he can divert a considerable contingent to the part of the interior he desires to strengthen; and that, too, without opening the hive or disturbing the brood-nest with any untimely manipulation of bees or frames.

Back of the regular breeding area he has a space for forming a nucleus, the bees from which are trained to issue by the side-entrance seen at the rear of the left side of the hive. The queen, too, finds there an exit and entrance when issuing to meet the drone, and when returning after being mated. By very simple means this division can readily be strengthened either by including another frame from the front section, or by diverting a proportion of the bees returning from the fields. The same chamber is generally employed during the winter months to house a small body of bees with a spare queen, often a valuable asset in early spring to requeen any colony which has lost the mother-bee. If not so required, she can serve in another and almost as useful a purpose. Two queens breeding in the same hive, divided as far as their range of ovipositing is concerned, by excluder zinc, quickly work up a powerful army of workers ready to take advantage of any early flow, such as fruit-bloom. The two divisions of this hive can be so worked up to full strength.

Perhaps, however, the chief claim for the existence of this novel hive is the fact that its owner says he can control swarming. It will be noticed that a dark object runs up the front of each hive. This is a tube of queen-excluder zinc leading up to the space near the hive-roof. This can be discarded at other times of the year, but when swarming is anticipated it is fitted on. The queen, although allowed full scope for ovipositing, is confined to a certain number of frames near the true front. When a swarm issues she can not join them, but has to walk up the interior of this funnel until she finds entrance to a contracted swarm-chamber. Here it is anticipated a certain number of bees join her and remain to protect her until the bee-keeper has time to attend to her and them. Most of the bees will have issued by the true entrance from which they make their regular exit to the fields, and as this is always freely open to them there is no congestion at any time.

The frames are all of uniform size, both in the brood-chamber and the super area. They are only 6 inches deep, and are all closed-end, resting on the floor with a bee-space below the bottom-bar. Further tiers are raised the same height, a bare ⅜ inch above the lower tier. As a rule, two sections at least are used for breeding, and the same number on which to winter. It is claimed that in early spring, if started with one chamber, and a second and then a third is gradually added, very strong forces result before the chief flow starts. Then in the fall the brood area can be almost insensibly lessened, and the full power concentrated on the contracted area. Thus at such a flow as the heather, as autumn nights chill, they can be kept employed in profitable labors, filling and sealing, when the denizens of larger hives would desert the surplus chambers for the warmer precincts of the brood-nest. This is rather an important feature in any late fall flow.

As showing how the germ idea of the hive has gradually been developed, it may be mentioned that Mr. Reid, the inventor, beginning with single hives, adopted a twin hive as seen in the illustration, but now he has added a third division so that the complete article is made up of triplets. All manipulations are carried out by means of a door at the back, and the roof can be raised at an angle, away from the operator, so that he is working under cover, and always at such a height as that he is saved any bending of the back or stooping to carry on his manipulations. He calls them "Bee-houses," and, as in the larger form, they may contain some half dozen separate colonies of bees, the name is more appropriate than "hives."

The illustration shows a group of the hives, including twins and triplets, as they were turned out from the workshop ready for sale at Mr. Reid's place. As will be noted, he has taken out a patent, and gets them manufactured to his order. He, himself, is an extensive farmer, and carries on bee-keeping as a side-issue, but he finds it pays him well, and, needless to say, he has unbounded confidence in his own hive.

Banff, Scotland.

* * *

Shall We Clip the Queen's Wings?

BY G. M. DOOLITTLE.

"I have never clipped the wings of my queens, and have been wondering whether it would pay to do so or not, as I see that some of those who are considered good bee-keepers do not clip. I wish you would give us your views in this matter in the columns of the American Bee Journal."—A CORRESPONDENT.

While I am aware that there are some of our practical honey-producers who do not advocate the clipping of queens, yet I am of the opinion that the one who does clip is on the side looking toward the greatest success. I have always contended that, by having the wings of all queens clipped, we have the bees under control to a much greater extent than otherwise; can handle them as we wish; separate them with pleasure where two or more swarms come out and cluster together in case swarming is allowed; and hive all swarms coming singly on the returning plan. This returning plan is one of the simplest ways of hiving swarms of anything I know. All you have to do when a swarm issues is to step to the entrance of the hive, having a little round wire-cloth cage with you, and as soon as the clipped queen comes out with the bees you can see her running around in front of the hive, climbing any point a little higher than the surrounding ground, and trying to fly from it, which attracts the eye, so the queen is seen more readily than any of the other bees. As soon as seen, put the open end of the cage down before her, into which she will immediately run if the cage is held so she can climb up the inside of it, the same as she did to the highest point in front of the hive. As soon as she is in, the mouth of the cage is stopped with a cork or piece of a corn-cob of the right size, and laid in front of the hive.

I have seen some apiarists pick up a queen and push her into the cage, one of which confessed to me that he had killed one or two that way. Don't try to do this. If you will watch the queen a moment before you let her run into the cage, you will see that she is all the time trying to get on something to climb up, apparently hoping thereby to be better able to take wing, and on your holding the cage in front of her she will use the cage for the same purpose, and you are to put the stopper in while she is climbing to the top.

Don't make the mistake of turning the open end of the cage up to put in the stopper, lest, perchance, she gets there at the same time and you catch her between the stopper and the cage to her injury.

Having the queen in the cage in front of the bottom-board of the hive she came out of, the old hive is picked up and carried to a new bottom-board, which had been previously placed where you wish a colony to stand, and a new hive which had been previously fixed in readiness for the swarm, set on this old bottom-board. In a few minutes the bees will miss their queen, the swarm often not clustering at all, and as is always the case where any queen can not accompany the swarm, come back running into the hive with fanning wings, telling as plainly as can be that they are rejoicing over finding their queen, which before this had been put at the entrance to the hive.

When about three-fourths of the bees have gone in, the stopper is taken out of the cage, when the queen will immediately run in with them, the same as she would have done had the swarm clustered with an unclipped queen in some high and out-of-the-way place for the bee-keeper to climb, cut off some valuable limb of a tree and bring the clustered swarm to the hive he wished the swarm to enter.

Then I have another reason for clipping queens now that my eyes are getting dim, which I did not consider at all 35 to 40 years ago. In many of the manipulations it is quite necessary that the queen be found, so of late years in clipping I cut the most of all the wings off, so that she is always after that very readily found. In making nuclei, changing frames of brood and bees, etc., if you find the queen you can always know that she is just where you wish her, and not in some place she ought not to be, thus often saving the life of a valuable queen. By having her wings cut short, you can see the golden abdomen of an Italian queen at once upon glancing over the frames as you lift them.

However, none of the above is the main reason for clipping. The idea of clipping originated through the losing of swarms by having them abscond or fly off to the woods before the bee-keeper had time to hive them, or from their leaving the hive within a few hours to two days after they had been considered safely housed in their new home. Having the queen clipped, even should the bees start off for the woods, or some old hive or open space in some building or rocky cave, we can always rest assured that they will come back again as soon as they become aware that "mother" is not with them, and run into the hive fixed for them.

Very few persons have kept bees for any length of time without an experience of swarms leaving for "parts unknown," where the queens of the apiary have been allowed the use of their wings. It was this loss of swarms by their leaving me in my early experience with bees that made me resolve that no more should run away after I had them safely in a hive, and though 40 years have passed since I made that resolve, not a single swarm has "left for parts unknown."

Then there is another item that I will speak of. While I believe that winter is the time in which everything should be gotten in readiness for the coming season's activities, yet it will sometimes happen, by some unexpected calling away in swarming time, or some swarm coming out when not expected, that we must take a little time before we can attend to their hiving. In such an emergency, if the queen is clipped, a swarm can be held out on a limb, swarm-catcher, or even in an open box, while we are making a dozen hives, or preparing some special place for them. Where it seems necessary so to hold a swarm, as soon as the queen is in the cage attach a short piece of wire to the cage, and as soon as the bees begin to cluster bend this piece of wire over the limb, or by means of the same secure the cage among the bees where wanted, so that the caged queen will be where the cluster will naturally hang, when the rest of the swarm will alight and cluster the same as they would had she had her wings to go with them at her "sweet will."

We can now go about anything we wish, resting assured that we will find the bees there when we are ready to care for them, no matter if it is not till the next day. Several times have I had the swarm uncluster from a queen so fixed and fly away and be gone entirely from sight or hearing for some time, only to return and cluster about their queen again, and, to the few bees, I always allow to run in the cage with her to care for her where I expect to leave her caged for any length of time.

Borodino, N. Y.

* * *

Thickness of Comb Foundation

Read before French Societe Centrale d' Apiculture,

BY FOLOPPE FRERES.

Comb foundation plays so important a role in the modern apiary that everything which concerns its use by the bees seems to present an interest, not only for the observer, but also, and we might say especially, for the practitioner.

It is under this double interest that we make bold to appear in this meeting and exhibit to you the results of an experiment made for a practical purpose.

Our object was the following: Determine if possible what should be the preferable thickness to give to a sheet of foundation, in order to get from it all the advantages which it is possible to secure. (The sheets upon which we experimented were made with a press.)

Before describing the experimental method adopted, it seems to us indispensable to determine and make known some data, for we are able to operate only by successive gropings, and in a manner somewhat empirical, on the whole.

If we furnish to a colony, during the good season, sheets of foundation of different thicknesses, three cases may introduce themselves:

1. Sheets too thin, which the bees must complete. This addition of wax furnished by the insect will translate itself, for the apiarist, into a loss which will be proportionate to the difference existing between the honey consumption of the bee and her producion of wax. Moreover, in certain circumstances, the cells may be brought to their normal depth, but the construction will then be so fragile that under the double influence of heat and weight, it will be liable to break down. (As it is difficult to obtain thin sheets with the foundation press, this will happen only in the case of ill-built sheets, one side of which would be too thick, while the other edge may lack in material.)

2. Too thick sheets furnishing an excess of beeswax. This surplus will doubtless be utilized, but often at the expense of regularity of the combs; and as it is *in no way indispensable*, it will occasion, for a large apiary, a very positive loss, in view of the high price of the beeswax furnished.

3. Lastly, a sheet of such thickness as will hold a medium between the two preceding examples. Supplying enough raw material that the worker may succeed to give the cell a sufficient stretch without having to make any addition, yet leaving a sufficient thickness to secure rigidity.

We therefore consider the sheet which will fulfill these conditions as the type of rational comb foundation.

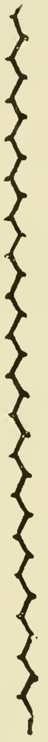
In regard to the thickness of the built comb we will consider it as 25 to 26 millimeters (inch .994 to 1.033) cappings not included, admitting that the wax in the cappings and their joint with the cell-wall should always be furnished by the wax-worker. The above being established we will now approach the experimental part.

We could attain our aim by different methods. For instance, by weighing each sheet given to be built, and weighing it again after being finished, deducting anything which might falsify the weight, frame, wire, propolis, etc. Although this method appears sufficiently exact, we did not resort to it, preferring a process which would permit us to ascertain, *de visu*, where the addition of wax by the wax-builders began in a sheet too thin, and would inform us otherwise upon the management followed by the bee in the case where she can not have an excess of wax at her disposal.

To reach this result we have caused our bees to work upon colored sheets, which would not exclude a positive control by weight also, and as you will see farther this trial has succeeded.

The search for a coloring pigment stopped us for some time, for we needed an innocuous substance capable of dyeing pure beeswax without communicating to it either taste or odor. In fact, although beeswax may be easily dyed while mixed with certain other substances, we must acknowledge that we found some difficulty in coloring it in an absolutely natural condition. After a few unsuccessful efforts, we finally obtained wax of a free shade without marblings, the color of which contrasted neatly with that of an ordinary comb, while remaining entirely harmless to the bees.

Sheets were made of different thicknesses by the use of a Rietsche press, measuring 764 cells to the square decimeter. [This is about 10 percent larger than natural worker size.—Translator.] Carefully measured and weighed, these sheets gave 85 to 115 square decim. to the kilog. [4.15 to 5.63 sq. feet to the lb.] We even reached nearly 120 decim. [5.87 sq. ft.], but the obtaining of such thin sheets can not be reached in ordinary work, as the press must be perfectly regulated, otherwise the middle rib is produced only partly. Even then a certain sleight-of-hand and a small apparatus are needed. Each of these sheets was introduced into a colony between two regular combs entirely built of known weight, and whose distance apart had been verified.



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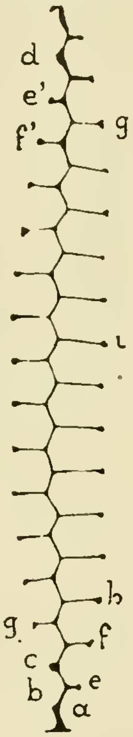

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FIG. 1.—Cross-section of a sheet of foundation—natural size.
FIG. 2.—Cross-section of a sheet of foundation in process of construction—natural size.

Although natural beeswax is an eminently plastic substance, we all know that the press causes it partly to lose this quality. In dyed beeswax, one sees this frailty increase, the staining molecules do not make a body with the mass, render it pulverulent, thus diminishing its cohesion to an appreciable extent.

Our bees thus had to meet some difficulty in using this substance, however the combs were built, filled with honey and sealed over.

The comb which we have the opportunity to present to you was built upon a sheet measuring 135x400 mm. [83.7 sq. in.], weighing 50 grammes without the fastening wax. According to admitted units this corresponds to a surface of 108 sq. decim. [5.27 sq. ft. to the lb.]

On the construction of this comb there is but little to say, the bees having followed their habitual mode of edification in a complete sheet of foundation: beginning in the center and extending their work gradually towards the outer edge. The comb which we display did not escape this rule, and the harvest having come, the harvest bees took possession of the cells, whether finished or not, to deposit their nectar.

If we consider this comb as a whole, we see very clearly the spots where, of normal thickness, it was reached by the uncapping knife. On all these cuts no trace of new wax is perceptible. The cappings of this part were, however, made with white wax, but had only a filmy thickness. Around this principal uncapped portion, one sees the cells being partially closed with deposits of almost pure new wax, tending to prove what we stated above, that the work of lengthening had been interrupted by the abundant gathering of nectar.

Lastly, towards the top-bar a goodly number of the accommodation cells and the row immediately below these are built of slightly dyed beeswax. One would be tempted to believe, at first sight, that they were short of raw material in this part of their construction. It is, however, not so; on the contrary, for it is almost certain that they took advantage of the fastening wax, white wax much in excess of need [we had used 8½ grammes of this], and whose solidity and malleability must have been positively superior to those of the prepared sheet.

Another comb, built upon a sheet of 105 decim. to the kilog. [5.13 sheets to the lb.], was placed in a very active colony. This comb had all its cells drawn to full thickness before the beginning of the crop; after uncapping, it was impossible to find a trace of white wax under the knife-cut. The fastening had been done with green wax. Unluckily this comb was broken down in transportation.

In the thinnest sheets the thickness of the wax was still sufficient to show only a discoloration of the upper edge of the cell. [Fig. 1]. We had but to ascertain their strength by submitting them to a practical test. Two of these containing among the cells of honey a few cells of pollen were run through a honey-extractor. The machine hardly reached its speed [14 to 15 meters per second], when some tearing was produced. For a comparison, we will say that identical combs containing an equal quantity of pollen, but built upon laminated comb foundation of 130 decim. to the kilog. [6.36 sq. ft. per lb.] are rarely damaged at this speed, and that the same holds good for foundation made on the press up to 110 decim. [5.37 sq. ft. to lb.]

The thickest sheets presented important peculiarities. The thickest sheet was sealed in light green. Its cappings appeared made up of a mixture of natural wax and dyed wax in equal parts. In addition, the two contiguous combs—one on each side of the dyed comb—and built of natural wax, were also sealed in light green wax of the same shade [Fig. 2]. It results from this observation that the bees had enough surplus material in a foundation of this thickness to seal the comb entirely, but that an addition of new wax seemed to have been indispensable.

The adding of new wax, leaving an excess of green material, the latter was transported, as we have seen, to the opposite combs. These combs whose thickness of base corresponded to 108 decim. [5.27 ft.] were thus sealed with stained wax, which confirms our first remark, that cappings can not be secured from a sheet of this thickness.

If we summarize these different observations, we reach the following statements: Strictly speaking, the thin sheets might be adopted, the addition of wax by the insect being slight, upon the whole, but we must take account of the method of sheeting which takes away from the wax a part of its homogeneity; in addition, being very much weakened by the work of the bee, it acquires a frailty which renders the use of these sheets very hazardous.

In the thick sheets we have found a surplus plainly indicated and rather detrimental to the interests of the apiarist.

These examples place us in the condition of the first two cases considered at the outset, *shortage* and *surplus*. Neither the one nor the other can please us. We are therefore brought by deduction to consider again the comb mentioned formerly. We stated that all the sealed cells had been capped over with perfectly white wax, and that after the passage of the knife the cells showed no longer a trace of these deposits. [Fig. 3.] Consequently the foundation upon which this comb was built is the nearest to the type we seek by experiment. Turning this time to the method of weighing discarded by us, we will in a way dissect this comb, bringing to your knowledge the weight of the different parts which composed it when it had just been baited. Taking the total of these we will compare it with the present weight to establish a possible synthesis.

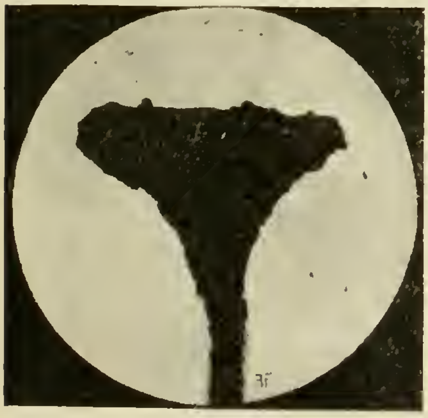

FIG. 3.—The lump at the outer edge of the cell, first stage—longitudinal section, enlarged 35 diameters.

The naked wire frame weighed		120	gram.
The foundation	"	50	"
The fastening wax	"	8.5	"
Total		178.5	gram.

The present weight hardly reaches 180 gr. We therefore reach an approximation very close to exactness since the difference is less than 1 percent.

In the above conditions it appears that this sheet of 108 decim. [5.27 sq. ft. to the lb.] may serve to determine the point where the equilibrium is established between the amount furnished by the apiarist and that supplied by the bees in the most economical sense for the production of extracted honey.

To positively state this point after this trial would be attributing to the latter an importance which it does not possess; it was attempted with the aim of furnishing information; we will not make the mistake of trying to draw from it a conclusion. However, this experiment has provided us with some teachings, and we should at least give our opinion, which may be summed up as follows:

In a practical view-point we think that the sheets measuring 85 to 90 decim. [4.15 to 4.40 sq. ft. to the lb.] can not be advantageous, while those comprised between 100 and 110 decim. [4.37 to 5.37 sq. ft. to the lb.], according to the size of the frame and the use of which they are to be put, appear to furnish not only the best yield, but also sufficient guarantee of solidity.—Translated by C. P. DADANT, from L'Apiculteur, of Paris, February, 1911.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Italian Queen Mated with Black Drone—Material for Honey Extractors and Tanks—Raising Hive From Bottom-Board to Prevent Swarming

1. If an Italian queen mates with a black drone all of her progeny will show some yellow the first year; the second year part of the drones will be yellow and part black; but the third year not a single drone will show the least trace of yellow, but all will be back.

2. How I wish you bee-doctors would use influence to get honey-extractors and honey-tanks made of charcoal or some anti-rust grade of tin. Galvanized iron will spoil the taste of honey in a single night. We have to remove our honey immediately from the extractors after extracting or it will become tainted and strong in a very short time.

3. I am sorry the American Bee Journal had to be changed to a monthly.

4. Perhaps you will remember that I was the first to advocate raising the brood-chamber from the bottom-board to retard swarming. INDIANA.

ANSWERS.—This is something new, and I am wondering if it is not very exceptional.

2. It lies rather with the users of such containers to get what they want. If you order a certain material to be used, you will no doubt get it. There has been no little discussion as to what is the best material for anything in the line of a honey-tank.

3. On some accounts it is better to have a bee-paper oftener than once a month, but there are also advantages in the monthly. By far the greater number of bee-papers in the world are monthlies.

4. Abundance of fresh air at the bottom of the hive is a very important matter, and in many a case may be the deciding factor to prevent swarming.

Moving and Transferring Bees

I have 2 colonies of Italian bees in 1½-story Danzenbaker hives. I have 10 colonies in the old box-hives. I want to move them about 50 yards from where they are, and I want to transfer them to frame hives. These bees are the little blacks. When can I move the bees, and when transfer them into the new hives? How can I do it? Our bees begin storing about April 15, and continue until June 1. They are taking in some honey and bee-bread now when we have a warm day. The maple trees and alder bushes are blooming now (March 1). SUBSCRIBER.

ANSWER.—The best time to move bees so short a distance as 50 yards is before they fly enough in spring to mark their location. At that time, or any time through the winter when they seldom are flying, they may be moved without any special precaution. It is probably too late for that now, as they are daily flying, and if moved without any precaution many bees will return to the old location and be lost. So you will proceed as follows: In the evening after they have stopped flying, or else early in the morning before they begin to fly, fasten the bees in the hive. Then in the morning move them to the new place, and all the better if they are handled quite roughly. Clear off the old ground where they stood, of all stands and anything that would make the place look like home, so that if any bee should return it will find nothing home-like. Some time in the middle of the forenoon, go to the hives, and before opening them pound hard on the hives so as to make them roar. Then open the entrance, having in front a board set up for them to strike their heads against as they issue from the hive. It will be as well if the entrance is not opened very wide at first.

Nowadays the favorite way of transferring is to wait until the bees swarm, and hive the swarm in the new hive, setting the swarm on the old stand and the old hive near it. Then 21 days later, when all the worker-brood is hatched out, you can chop up the old hive, add the bees to the swarm, and melt up the combs. Of course, if you prefer, you can transfer in the old way during fruit-bloom, as directed in your bee-book.

Mating Queens to Choice Drones —Preventing Swarming

1. How can I get a fair percentage of queens mated to my choice drones? Can

I cut out all drone-comb in my inferior colonies with success, replacing with worker-comb or foundation and allow no drones to be reared in my own colonies?

2. I have the Danzenbaker hives and I propose to prevent excessive swarming, as I do not care for any increase, by shaking all or nearly all of the bees out of the old colony, just about the time they would naturally swarm, in front of a new hive filled with full sheets of foundation or empty combs as the case may be, on the site of the old stand; placing the old colony, now almost beeless, on top of the new colony supers and roof, facing another direction, contracting the entrance somewhat, and gradually turning the new hive around until the end of 3 weeks, when all brood has hatched out, and then shake the bees from the upper hive on the ground in front of the former "shook" swarm. Extract the honey from the top hive, and pile it away for use another year. Will it work, or would it be better to set the old hive on an altogether new stand, and at the close of the honey harvest, brimstone, and extract or pile the combs away for feeding?

Ohio.

Answers.—1. Your proposed cutting out of drone-comb is a step in the right direction, but not so very long a step with other bees ¼ to 2 miles away. But to do anything beyond that step is not easy, except to encourage drone-rearing in pure stock by allowing or giving considerable drone-comb and keeping the colony strong. Some have proposed putting in cellar the hive containing the virgin, and also the hive containing the drones, bring them out after flight of drones is over for the day, and giving thin syrup or honey to induce flight.

2. Either plan will work, but the first probably better than the second.

Italians or Black Bees—Honey and the Teeth

1. I notice that somebody speaks in favor of the Italian bees, but some others prefer the black bees. I am an amateur bee-keeper, have 2 colonies of common black bees in 10-frame hives, and am running for extracted or chunk honey. Considering the dry summer, my bees did pretty well with some sort of management. Taking it to be the fact that my bees are one and the same family—namely, the queen in one colony is the mother of the queen in the other colony—here is the problem I want to question. On the one side there may be danger of inbreeding, but on the other side if I buy and introduce an Italian queen there will be the danger of hybrids. Sending away for an Italian queen might in one way or another be a poor job. As I believe, inbreeding is bad; and hybrid bees may also be bad or objectionable because of temper. What have you to say in this matter? What am I to do about it?

2. Somebody claims that honey is bad for the teeth, and that it causes toothache. I would not believe it, but since fall I have had plenty of honey to eat and my teeth have been in poorer condition than before. Have you anything to say in reference to this?

Wisconsin.

Answers.—I don't believe there is as much danger on either hand as you suppose. Unless neighbors' bees are 2 miles distant from you on all sides, there is the probability that your young queens will meet drones from abroad. On the other hand, if you introduce Italian blood, it is not likely that you will increase the violence of the temper in your bees as much as you suppose. The probability is that what you consider pure blacks are hybrids, having at least some Italian blood in them, for it is somewhat doubtful if pure black blood can be found in Wisconsin at the present day. Of course I can not say how good your bees are, but the probability is that the itroduction of pure Italian blood would increase your crop of honey.

2. I do not like to speak with too much positiveness, but although honey or any other sweet causes pain in teeth that are out of condition, I doubt if the sweet causes the decay.

Hiving on Empty Brood-Combs—Full Sheets of Foundation, Etc.

1. Will bees hived on empty brood-combs during a good honey-flow produce as much comb honey in supers as they would if hived on full sheets of foundation?

2. What is the best way to handle bees in regard to room between the white honey-flow in June and July, and the buckwheat flow in August? My bees are then too strong to occupy an ordinary hive-body, and if given new sections they destroy the foundation and spoil the sections.

Ohio.

Answers.—1. Being saved the extra labor of building comb, they ought to do more in surplus. I think they will, although I have seen it stated that they would not. Possibly that might be so under some peculiar circumstances, but as a rule I should expect a gain from the full combs.

2. I don't like to get into a quarrel with you, but I am hardly ready to accept your statement that your bees are too strong to occupy an ordinary hive-body, and at the same time destroy foundation in sections. Not but what that is true, too, but I don't agree with your evident belief that the bees need some super-room. If they tear down the foundation in sections, they are not gathering anything more than they need for their daily use, and so need no super-room.

"Can't have room to stay in the brood-chamber?" Let 'em stay out, then. Won't hurt 'em a bit to cluster outside the hive till it is time to put on sections for the buckwheat. This on the supposition that you want the buckwheat stored in sections. Another way is to give them a second story. If you haven't many extra combs to put in second stories, one or two combs in each story will be enough so long as they are storing nothing, and you need not be troubled with the thought of the empty space in the upper story.

Don't be worried about the character of your questions. Any question is legitimate that fairly belongs to bee-keeping, and is not answered in the bee-keeping text-books.

Management for Extracted and Section Honey

I would like this year to have both section and extracted honey. I have a plan I would like your judgment on before I go ahead with it. My plan is, during fruit-bloom, to remove the bees from their stands, putting in their places hives filled with empty combs or foundation less one with some brood, and probably another with honey, which is to be left in the center. Next is a queen-excluder on the lower story, then a super for section honey, and then put on the old hive with the bees. Now fix the cloth in front of the lower hive, and take the bees out of the top hive, one frame at a time, and shake them all on the cloth. Then put on section supers as needed. In that way I would have both section and comb honey for extracting, as the bees would have the top hive to fill after the brood has hatched, besides the surplus in the lower brood-chamber. I believe only sealed brood should go above the excluder, on account of the bees building queen-cells with young brood. Now the question is, Will the bees go up and take care of the brood, or will they stay below? If they would go up and take care of the brood, I don't see why the plan would not work. I don't suppose I could work them all that way, because I would not have enough sealed brood to go around. I think it ought to be done during fruit-bloom, and I guess I would have to feed them between fruit-bloom and alfalfa bloom.

Colorado.

Answer.—The bees will take care of the brood above, only you would better not shake off all the bees, for if you shake all off they may be a little slow about finding their way up. The plan will work just as well if you shake the bees off half the combs. It will be all right to put unsealed brood above if you kill queen-cells in about a week in the upper story. If you leave the sections under the brood until sealing you will find the sealing darkened. After a good start is made in the sections, better set the brood down on the excluder and the sections above the brood.

Bees Enticed Out in Winter

May, 1910, I bought 1 colony of bees from a neighbor, and 2 weeks after I had a large swarm from it. About 10 or 12 days later a second swarm issued, somewhat smaller than the first. A few days later a friend 'phoned that he had found a swarm and wanted me to come and get it. I went and brought it home, which made 4. I got about 120 pounds of comb honey, and left the brood-chambers full for them to winter on. They all seemed strong and healthy. I built a large box, about 8 or 10 inches larger, all over, than the hives, and packed them in planer shavings. About Feb. 1st I discovered that the inmates of the mother-hive had dysentery. At noon, when the sun was shining, although the temperature was 10 degrees below freezing, they would come out in large numbers to cleanse themselves, but would get benumbed before thy could return, and fall to the ground and die on the snow. On a mild day I uncovered the hive and found no ice in it. It was dry, and the bees came up over the frames quite lively. I did not feed them in the fall. They had nothing but their own stores to feed on, and I can think of nothing that could bring this condition about. I have read my bee-books through, but can find no answer. Kindly tell me what in your opinion is the cause, and what the remedy

New York.

Answer.—Hard to say. There seems some inconsistency in having the bees dry and clean, and yet coming out with diarrhea when it was 10 degrees below freezing. It is possible, however, that they were not really troubled with diarrhea, but only enticed out by the bright sun shining on the snow, a thing that may easily happen with the thermometer at 22, or 10 below freezing. The remedy for that state of affairs is to set a board up in front of the hive as a blind to keep the sun from shining in. The colony being very strong, it is just possible that the entrance was too small. It should hardly be less than 6x⅜ for a strong colony.

The Miller Frame

A Pennsylvania correspondent wants me to send him a Miller frame in the flat, as a sample. I have no frames in the flat, but will tell how the Miller frame is made, copying from "Forty Years Among the Bees:"

The frame is of course the regular Langstroth size, 17⅝x9⅛. Top-bar, bottom-bar and end-bars are uniform in width, 1⅛ inches throughout their whole dimensions. The top-bar is ⅞ inch thick, with the usual saw-kerf to receive the foundation, and close beside this is another kerf to receive the wedge that fastens in the foundation. The length of the top-bar is 18⅝ inches, and ⅞x9–16 is rabbetted out of each end to receive the end-bar. The end-bar is 8 9–16x1⅛x⅜. The bottom-bar consists of 2 pieces, each 17⅝x½x¼. This allows ⅛ inch between the two parts to receive the foundation, making the bottom-bar 1⅛ inches wide when nailed.

The object of the two parts to the bottom-bar is to allow the foundation to come down between them, thus making a close fit without any pains to cut the foundation exactly. After the comb is built in the frame the bottom-bar is no better for being in two parts—perhaps not so good. Some of my frames have a solid bottom-bar 17⅝x1⅛x¼, with the foundation cut to fit exactly down on the bottom-bar. I like them just as well.

The side-spacing, which holds the frame the proper distance from its next neighbor, is accomplished by means of common wire-nails. These nails are 1¼ inches long and rather heavy, about 3–32 inch in thickness, with a head less than ¼ inch across. By means of a wooden gauge which allows them to be driven only to a fixed depth, they are driven in to such a depth that the head remains projecting out a fourth of an inch.

Each frame has four spacing-nails. A nail is driven into each end of the top-bar on opposite sides, the nail being about an inch and a half from the extreme end of the top-bar, and a fourth of an inch from its upper surface. About 2¼ inches from the bottom of the frame a nail is driven into each end-bar, these nails being also on opposite sides. Hold the frame up before you in its natural position, each hand holding one end of the top-bar, and the two nails at the right end will be on the side from you, while the two nails at the left end will be on the side nearest to you.

The end-spacing is done by means of the usual staple, about ⅜ inch wide.

Winter Packing and Heat Transferrence

Having read your book and writings until I feel as if we were your personal friends, I make bold to furnish you with the information that you say you lack in replying to "Ontario," on page 52, of the February American Bee Journal. While paper is lacking, no doubt, in the absorptive properties that planer-shavings possess, it has only about half the conductivity, the figures being, paper .27 to 35; mill shavings .65; *vide* "The Transmission of Heat Through Cold Storage Insulation," by Paulding, sold by D. Van Nostrand Co., 23 Murray St., New York, N. Y. So many factors enter into the matter of heat transferrence that I feel that E. R. Root and many other writers should master the formulæ in this little book before "laying down the law." I don't wish to be critical, especially of a person who is doing the good that you are doing, but merely suggest to be helpful, that all bee-writers should have a book on refrigeration engineering.

MICHIGAN.

ANSWER.—This letter from The Johnson Milk Co., Battle Creek, Mich., will help out "Ontario," and perhaps others, in a matter plainly not so well understood by bee-keepers as it should be. The writer evidently speaks "by the card," and hearty thanks are hereby tendered for the information.

Exchanging Brood for Foundation—Hive-Ventilation—Queen-Cage Candy

1. When 2 frames containing brood are removed from a hive, and frames with full sheets of foundation are given, should the latter be placed at the side, or where the frames are removed?

2. Would it be a good plan to bore holes in the rear of the hive for ventilation? and where?

3. In Farmers' Bulletin 397, page 41, under "Introducing Queens," Dr. Phillips writes: "In view of the fact that disease may be transmitted in mailing cages, etc., the queen may then be put in a clean cage with candy known to be free from contamination (made from honey), etc." How is this kind of candy prepared?

ILLINOIS.

ANSWER.—The gist of the plan is to cage or remove the queen after getting the colony very strong, 8 or 10 frames of brood if possible; then in 10 days divide into nuclei, giving each nucleus 2 frames of brood with queen-cell and adhering bees and a comb of honey. So far nothing unusual. Now comes the special part of the Somerford plan, which is to close the entrances to the nuclei by stuffing into them green moss, grass, or leaves, making it so tight that the bees will be 2 to 5 days gnawing it open.

Replying to your questions, you can hardly say that you return the queen to the parent colony, for the colony is broken up; but you do leave her on the old stand at the time of division. My advice would be not to cage the queen, for you will get more cells to remove her. If she is old, you may kill her. Likely you will want to kill her, as she is supposed to be extra-good stock. So when you unqueen the colony, make a nucleus on a new stand by taking two frames of brood with adhering bees and the queen, also a frame of honey. Then at the end of 10 days, when you make the divisions, put the hive with the queen on the old stand, and put one of the nuclei on the stand from which you have just taken the queen. Neither of the entrances of these two hives should be fastened shut. Thus you see the old queen never stops laying. She is put in a nucleus for 10 days, and then goes back on the old stand.

Do not unqueen the colony until it is very strong and the bees are busy gathering; and this will not generally be until the time when bees begin preparations for swarming.

Using Hives Where Bees Died

I wintered my bees in the granary last winter, and of 19 colonies only 8 lived through the winter. They seemed to be troubled with dysentery, and the stuff they passed was ¼ inch thick on top of the frames. The last 4 hours of the bees' lives they seemed to pass nearly a teaspoonful, and all of very bad odor. This winter I left them on the summer stands with these results: From 18 colonies all but 3 died of the same disease. The hives are full of nice looking honey. Would it be all right to put a colony of bees in these same hives without removing the honey? I have an idea that the sudden change in temperature caused the hives to become damp, and thus the disease.

MINNESOTA.

ANSWER.—The likelihood is that the granary was too cold a place. A well ventilated cellar might give better results, being warmer. It is possible, also, that they were not packed warmly enough on the summer stands, especially on top. It is just possible, also, that the honey was at fault, but in that case it would likely be dark from honey-dew. It will be all right to use these hives without removing the honey. Even if it should be honey-dew, the bees can stand that all right when flying daily.

Getting Honey and Not Increase

1. Suppose a person does not want to buy any more hives then he has, and all his hives are filled with bees. What is the best way to follow to get a good honey crop; that is, to prevent weakening colonies by swarming? In such a case, as I understand, "shook swarming" can not be practiced, because an empty hive is required. The problem then is, notwithstanding possibilites of swarming, the colonies are to be maintained to utmost capacity. Production is for comb honey.

2. On page 52, on "Prevention of Swarming," you say in answer to a question, "If you should remove the queen a few days, etc.," I do not understand your answer. If it takes a queen 16 to 17 days to develop (the queen of the colony having been removed), how could a swarm issue before the end of 8 days? You will see that the item referred to might answer my question, but if it does so completely, I do not understand it.

3. Did you ever practice the strengthening of a weak colony by reversing the hives, respectively of a weak and a strong colony? As you seem to understand German, I will state that Berlepsch recommends this during a "volltracht," which I suppose means a "fullflow." This looks very easy, only may be too late for securing full advantage from the strengthened colony.

I have 8 colonies, and so far every one has wintered well. Yesterday (April 5) was almost the first mild day, and things were lively all over, even in case of a colony made up last September by uniting, and which to some extent had been robbed, and from which I removed during the winter a lot of dead bees.

PENNSYLVANIA.

ANSWERS.—1. A very old-fashioned way is simply to return each swarm as many times as it issues. That's all there is to it. You will hardly like the plan—too much work. You can cut out most of the work. When a colony swarms, return the swarm and kill or remove the old queen. Seven or 8 days later cut out all queen-cells but one—the bees will do the rest. Instead of this way, you may like another way: Return the swarm and kill the queen, as before. In a week begin to listen each evening for the piping of the first virgin that emerges from her cell, by placing your ear against the side of the hive. You will hear her more easily in the evening because it is quiet then. When you hear her in the evening, go to the hive the next morning and destroy *all* queen-cells. There will be no more swarming. This last way is better, because if you destroy all cells but one you may not leave one of the best cells; indeed, there is such a thing as you leaving a cell with a dead larva in it.

2. Your estimate of 16 to 17 days is too much. Fifty years ago that was accepted as correct, perhaps because observations were made in nuclei or weak colonies. The latest estimate is 15 days from the laying of the egg to the emergence of the virgin from her cell, if the colony is strong and all conditions most favorable. "Virginia" proposes to remove the queen, and then 8 days later destroy all cells but one. Suppose the queen had laid an egg in a queen-cell before her removal. In 9 days more, or 16 days from the time the egg was laid, "Virginia" goes to cut out cells, and finds the virgin is out ahead of him. Suppose, however, that at the time of the removal of the queen no queen-cells had already been started. The bees would start cells with larvæ a day or two old—possibly less than a day old—and no virgin would emerge until 11 or 12 days after the removal of the queen. In that case he would be all right to kill cells 8 days after dequeening.

3. I think I never tried strengthening in that way. There is danger of the death of the queen in the weaker colony unless in a time of a full flow, and strengthening of weak colonies generally occurs before the heavy flow, or after it.

Seemingly Resultless Effort—Soft Maple—Getting Swarms from High Trees

1. My bees work early and late on catnip, sunflower, cucumbers and muck-melon vines without any apparent success.

2. Last year the outside-wintered colonies produced more honey than cellar-wintered.

3. Do bees get food or honey from the sap of soft maple stumps or logs recently out in the spring?

To get a swarm from outside limbs of rather high trees, take a long pole or two fence-boards nailed together, tack a horseshoe on the end, hook over the limb close to the bees, then by giving a quick jerk the bees will fall and fly, and likely to re-alight on the pole. Unhook and let the bees down.

ILLINOIS.

ANSWERS.—1. Probably at the time they are working on these plants they can not gather more than they need for their daily wants, yet that amount is important, for it saves just so much of the stores already present.

2. That might, and it might not, be due to wintering, but as you are only a little north of latitude 40 degrees, outdoor wintering is likely to be better for you.

3. It is probably used up as food; but if they should get enough of it they would no doubt store it.

Management to Prevent Swarming

1. Just before swarming time if I raise the brood-chamber and put an empty one under it with a queen-excluding honey-board between them, then take one frame of brood and the queen and put below, what will become of the drones as they hatch out from the upper story?

2. Should there be an entrance or hole in the upper story for them to go out?

3. I believe this is called the Demaree plan, is it not?

4. Do you consider this plan a good one when only extracted honey is wanted and no increase in number of swarms?

SUBSCRIBER.

ANSWERS.—1. In the course of time the drones will die, and their dead bodies will be found on the excluder. The workers will tear the bodies in two, but will not be able to pull the hard thoraxes through the excluder, where they will accumulate. Not a nice thing, and yet it doesn't seem to do a great deal of harm.

2. Yes, and if you do not care to preserve the drones it would not be a bad plan to keep the hole generally plugged shut, opening it once in every few days in the middle

of the day, and as soon as the drones are all out closing it again.

3 Yes, G. W. Demaree, a prominent Kentucky bee-keeper, gave it to the public a good many years ago.

4. Probably for most bee-keepers an excellent plan. A few have reported that bees would swarm after being so treated, but for most it has stopped swarming entirely. Some have reported that after being put below the excluder, the queen has swarmed out. Very likely this would not happen if one brood-comb were left below, preferably one with the least brood in it.

Some Questions from Ontario

1. I have been going to write all winter, and hoped to get this ready for the March number, but now fear that the fraternity will not profit by my blunders until after April, when they will have time to read for the spring rush. But I can't help ill health, and it is no use talking to no purpose.

In the first place, I am told that bees can't rear brood on sugar syrup; is it true? The bee-papers should be written more for beginners than for experts. I have read them for years, and only now learned through the report of the National that to get a large surplus it is imperative that we feed between fruit-bloom and clover, and, dear Doctor, you yourself have warned beginners against stimulative feeding in the spring, as we might do more harm than good, and it is true; yet we have had more success with feeding than without. I think I told you of a colony last year that were fed until they were too lazy to do anything, and I have more to relate to the same effect further on, for the past season.

2. How can we keep the bees from putting cells of pollen here and there, perhaps a dozen on a side of every comb? The Carniolans did it worse than any of the Italian or Italian black hybrids.

3. Do you think that cutting the heads off drones tend to make the bees cross? I did this frequently to prevent swarming, and have got mine so cross that they will meet me to sting me an eighth of a mile when returning home after an absence of a half hour. I cut the heads off a frame of capped worker-brood, much against my will, in one hive, as recommended by Dr. Jones in the West, and, I judged, with injury; less honey and more pollen. It looks to be such an unreasonable practice.

4. Do you not think that every colony has an individuality of its own, and ought to be studied separately? I had only one colony that would put up fine comb honey in shallow frames to perfection, equal to the best section honey. What I mean is this, if any person came along who was anxious for a frame of new honey, I was likely to get it here if none of the other dozen colonies could supply it.

5. Can you suggest why my bees would not put a speck of white honey in sections that had been on the hives for 3 weeks or more, yet would put dark honey in them, with coaxing? I was never built for a bee-keeper, and am tired of experimenting because I have not brains for the business, and the bees "checkmate" me at every turn?

6. I took my bees from the cellar on April 5th, about 44½ N. latitude, N. of Lake Ontario. My yard is on a knoll exposed to a 4½-mile sweep of southwest wind that by strips of woods is directed to my place as if it came from a funnel. I can scheme no satisfactory shelter, and last season I moved part of the bees from a hollow where there was no sun after 1 o'clock, and placed them in pairs 10 feet apart for all of them on the knoll, and painted one hive of each pair blue in front for guidance.

7. In one of the bee-papers I read that Mr. Danzenbaker had, after many years use of the shallow bottom-boards, gone back to deep ones, so I made all my bottom-boards nearly 1¾ deep at the entrance off to ⅛ or ¼ at the back. Father Doolittle also said he used a wire entrance-guard coarse enough to allow bees to pass and mice could not. These two eminent men taught me the lesson not to believe all that even an eminent man writes. After fitting all my hives with the wire screens, I found that any metal or even paint on a bottom-board condensed moisture in the cool of the morning, to be an injury to the bees. With the deep bottom-boards the bees would fly clear from the cluster out of the entrance, and at least one-third of them would catch their wings in the dew on the painted bottom-board. Part of them would be turned on their backs with both wings entangled in the wet, and be half exhausted in their efforts to escape; the rest might catch by only one wing, and they would escape easier.

8. It is barely possible that locality may have made some difference to the deep Danzenbaker entrance, but the Carniolans taught me something worth while; one of them from which I was trying to rear drones for crossing with my Italians, having seen the cross spoken well of by some writers. I had fed them until they occupied a good half of the full-depth super above the excluder, when, on June 13th, the warm weather started, and while the other bees were getting honey, seeing but little movement around the entrance to this one, I opened it up, and I believe there were not 200 bees in the upper story, but it seemed so much more comfortable to cluster below out of the heat and wait until somebody fed them. I don't think they had one ounce of honey. I promptly gave them a shallow bottom-board and took away all their combs but one, giving them full sheets of foundation instead, and told them to go to work or starve! I think I ought to have taken away even the last comb, which I did 2 days later, and they started to gather a little honey and build combs, and I thought I would make them build combs for other hives, but found it difficult to steal combs from them early enough to be of any use; for they would have cells of pollen or eggs in them before they were one-third built, and eventually had their hive filled with pollenized combs before I could take them away, in spite of all I could do.

9. The first Carniolans I had balled their queen late in 1900, and reared another—I supposed too late to mate, and I tried to find out if they had a queen by the sifting process through an excluder, when they all decamped, being a few on one bush and a few on another, or went into the hives. I should have said that the brood taken from the other hive I distributed in weak colonies for convenience. I did this once before, and judged it an injury by their teaching others their bad tricks. Their third Carniolan swarmed and went away, and never did any good afterward; so I made myself happy by giving them all in both hives a dose of bisulphide of carbon, and dug a hole and buried them. No more Carniolans for me. The breeder of these Carniolans was well recommended to me, and I sent for untested queens, probably too late in the fall, and he sent me tested ones at the same price—likely all he had left; and the next season he advanced his prices 50 cents. I should have been glad to return my queens for 10 cents each.

10. I learned one other lesson by the deep bottom-board, and the high southwest wind. The wind drove the bees from the front of the hive until there was not a bee visible in the first 3 spaces between the combs, the frames being short, set crosswise of the hive, and the entrance at the end, or the 16¼ way of the Danzenbaker hive.

11. Through continued ill-health ever since I tried to keep a few bees, I have always been behind. I have never had either supers or combs enough; yet on the advice of our worthy manager of the National Bee-Keepers' Association, N. E. France, I determined to try for some honey with one hive worked, except one blunder, on the Allen plan given on page 80 of the National Report for 1909. I tiered this 4 stories high with full-depth supers of 9½ combs in 3 of them; the fourth one they built combs for, from full sheets of foundation, except 3 partly-built ones that I stole for them from the worthless Carniolans, and I got them all filled with honey, bees or pollen. I extracted one full super of white honey from them when ripe, and left 2 others on too long. I had read of having too many bees in a hive, but never had the happy experience until last season, without apparent injury; but before I could get through with the extracting, after leaving them, as I supposed, enough combs for winter, all I had was about 8 pounds of surplus over and above that of the first super extracted. If they consume honey in the cellar as they did in November, they may starve.

12. I can't find the date of putting the bees into the cellar, but certainly late in November. I put this hive in the cellar 2 stories high, because it seemed impossible to get the bees into one; I never did so before, and the water was running out at the entrance when I looked at them a few days later (porous covers). I have always hoped to get my bees in the cellar in October, but am always behind. I think Oct. 15 preferable to Nov. 15. There was frost every night. Temperature 26 degrees this morning—April 11. Not a blade of grass to be seen in the most sunny corner, and a bit of snow in the garden yet. This colony became the most vicious one I ever had. NOVICE.

Ontario, Canada.

ANSWERS.—1. No; and neither can they rear brood on honey alone. They must have pollen. With pollen they can rear brood with either honey or sugar syrup. It is claimed, however, that honey is better material from which to rear vigorous bees, because it contains matters not to be found in sugar. Especially Swiss authorities insist that however sugar syrup may be as a winter food, it should not be used when brood is being reared; and it is hard to find anywhere in the world abler authorities than in Switzerland.

It is imperative to feed between fruit-bloom and clover, only where there is so long a dearth between the two that brood-rearing stops entirely. I think that does not occur in a great many places. Certainly not here, and I doubt if it occurs often with you. It occurs in Colorado, and probably in some other places.

I can hardly agree with you that bee-papers should be written more for beginners than for experts. Please remember that beginners are becoming experts constantly, and if every bee-keeper becomes an expert there ought to be as many experts as beginners. Indeed, some think too much attention is given to beginners, and as you become an expert you may look upon the matter in a little different light.

2. You do not say whether you refer to pollen in brood-combs or in surplus. In brood-combs I know of nothing to prevent it, and it is not very objectionable. In surplus comb honey it is very objectionable, and it is within the power of the bee-keeper to encourage or discourage it. The closer to the brood, the more pollen in sections. Shallow brood-chambers make more pollen in sections than deep ones. Thick top-bars, or anything else that increases the distance is a help against pollen. Another thing of much importance is the foundation in sections. If drone-comb is as scarce in the brood-chamber, as it should be, and small starters are used in the sections you may be pretty sure that drone-comb will be built in the sections, and when drone-brood is started there, worker-brood is likely to accompany it. Either use a queen-excluder to keep the queen below, or else fill the sections full of foundation.

3. I don't know for sure, but it hardly seems that beheading the brood should make the bees cross, unless exposure to robbers or something else accompanies it.

4. Yes, there can be no doubt that each colony has its own characteristics. By paying attention to the difference in colonies, and breeding accordingly, one should be able to improve one's stock.

5. I suppose it merely so happened that they were not getting enough white honey to store surplus, having only enough for daily use, and then when the dark honey came there was more of it so that they had enough for daily use and a surplus beside.

That very fact, that the bees outwit one so often, is one of the beauties of bee-keeping. Keeps one on the alert all the time, and if one comes out ahead at least part of the time there's a lot of comfort in it. A game of ball would lose its interest if you knew to a dead certainty that one particular side would beat every time.

6. You took your bees out a week earlier than I. I'm in latitude 42, but the sweep of prairie winds is such that the cold may be worse on the bees here than with you.

You give your bees a good deal of room. Mine are placed in groups of 4—2 pairs back to back—and I never feel there is any need to have fronts painted different colors.

7. I wonder if there is not some mistake. What is called the Danzenbaker bottom-board is really the Miller bottom-board, and has one side deep and one side shallow. So that Mr. Danzenbaker uses a deep bottom-board part of the year, reversing it and using a shallow bottom-board the rest of the time. I have given up the reversible board, using a bottom-board 2 inches deep all the year around, filling in a bottom-rack to keep the bees from building down in summer.

I think Mr. Doolittle does not use a coarse-meshed wire-cloth to close entrances at a time when bees are flying, but in the cellar in winter. It works well then.

8. I hardly think the deep entrances were to blame for the bees not working. Certainly my bees do good work with a 2-inch space below the bottom-boards, only I must put in a rack to keep them from building down. But the rack is so open that they have nearly the whole benefit of the 2 inches of space.

You can not get bees to build out comb much ahead of their filling it. Likely ¼ inch deep is the best you can do. But a little honey or pollen in a comb can do no harm if you want to give it to another colony as a brood-comb.

9. I never had the experience of having bees desert when sifted through an excluder. Possibly you had no brood for the bees to go upon. That might make a difference.

10. In the cool weather that comes when the bees are first taken out of the cellar, so large an entrance should not be allowed. Just as soon as my bees are on the summer stands a thin board closes the entrance entirely, except a hole at one lower corner about an inch square. Then when the weather becomes warm they have the full entrance 2x12 inches.

11. I hardly believe the deep entrance was to blame.

12. Some years Oct. 15 might be all right for cellaring bees, but generally it would be too early. No fixed date can be given for cellaring bees, and it is always a matter of some guessing. In a year when you feel pretty sure the bees will have no chance for a flight later, then Oct. 15 is all right. If you could know that the bees would have a good flight-day Dec. 10, then it would be better to wait for them to have that flight. As nearly as you can guess, cellar your bees next day after their last flight. But a week too early is better than a day too late.

REPORTS AND EXPERIENCES

Thousands of Acres of Bloom

Spring is here, and there are 3000 acres of fruit-trees in bloom, with wild flowers blooming, also. There are thousands of acres of alfalfa which will soon be in bloom, if let stand. Henry C. Barron.

Hagerman, N. M., April 21.

Wintered Well—Cold Weather

Bees with us have wintered well, but the cold weather we are getting just now is unfavorable, and it looks as if we might lose several times as many bees during the spring as we did in the winter.

J. E. Crane & Son.

Middlebury, Vt., April 24.

Over 5 Months Without a Flight

We went into winter quarters with 63 colonies, all in double-walled chaff hives. Their last flight was Oct. 22, 1910, and they never flew again until March 29, 1911. All have wintered in fine condition, except one colony. L. C. Stone & Son.

Itaska, N. Y.

Bees in Good Condition

Bees wintered well and are in good condition. There was a good supply of fall honey gathered here, but very little spring honey, last season. We have tried many different kinds of bees, and now have the red-clover Italians, as we think they are the best.

H. S. Crofts.

Vanderburg Co., Ind., April 19.

Prospect Not Good for Honey

The weather continues cold, and the prospect for a large honey crop is not very brilliant. The bees have been very slow building up this spring, but some of them are in fair shape for the orange bloom. I opened one hive yesterday that had 8 solid frames of brood, but the majority have only 3 or 4 frames. B. W. Brown.

Moreno, Cal., April 4.

Utilizing Foul Brood!

"Non-swarmers already possible." Yes, I have them, and all of this strain is foul-broody. Some of us know well that as a means to keep down increase foul brood is as good as any—it is the shortest cut, and therefore better. Why, then, not turn this scourge to some good. (?) But, after all, is it not quite possible that a bee that never feels like swarming does not always feel just right?

Knox, Ind. D. Roberts.

Bees Busy in Louisiana

I write you of the doings "away down South" about my bees. I moved all my bees in March, a distance of 2 miles, in the daytime. As soon as I placed them where they were to stay, I took off the guards and let them fly at once. We have had blooms for more than a month. The bees have been busy every day on maple, plums, peaches, pears, apples, elm, blackberry, haw, white-wood and white clover, and later on we will have blooms of lake cress, persimmon, button-willow, Japan clover, black locust; and in June we have a honey-flow from the trees, and so heavy that I have seen it drip from the leaves; and then later come fennel, bitterweed, cotton and corn-tassel.

My bees are working from 7 a.m. until 6 p.m. I have been preparing for increase this year. On Friday, March 29, I brought out a new hive (8-frame) and had just placed it, and had sat down to watch the workers drag out the drones, and all at once out came a very large swarm, about my big hat three times full, and exactly at 5 o'clock in the afternoon. So I went early yesterday morning to see how they are doing, and found them flying in search of food, and they have worked hard all day. Some of them have such heavy loads that they could hardly get back to the hive.

W. R. Cunningham.

Rayville, La., April 2.

Keeping Bees on Shares

In the March American Bee Journal, page 83, "Idaho" asks Dr. Miller how A and B should divide the proceeds of the bees kept by B "on halves." That depends upon the *time* the agreement was to run. If the agreement was for one year only, then the "divide up" should be at the close of the year, and A would get no further proceeds from B's half of increase; but if the agreement was for a term of years, the bees are not divided until the agreement terminates by limitation and each receives one-half of the proceeds.

Acton, Calif., March 25. C. T. Wise.

Unusually Good Wintering of Bees

It may interest some readers to learn that the bee-keepers residing along the banks of the Hudson River have had remarkably good success in wintering their bees during the past winter. Honey-bees wintered on the summer stands in this vicinity usually sustain a loss of about 10 percent, but last winter only 3 colonies were lost out of 104 that were wintered on the summer stands on my fruit-farm. The bees belong to James McNeill. This is the smallest winter loss that he has sustained during the 5 years that the apiary has been conducted here.

F. D. Clum, M. D.

Columbia Co., N. Y., April 17.

Foul Brood Treatments—Uniting Colonies

I am at my bee-ranch at this time, taking care of a horse that got a bad wire-cut, and feeding my weak colonies of bees to bring them up to the prospective honey crop. I have read quite a bit in the bee-papers in regard to curing foul brood. About 15 years ago I was rearing bees in the valley, and selling to bee-men in the mountains. When I had sold out I would go out and buy box-hive bees from Tom, Dick or Harry, and transfer them and make more increase. In that way I picked up foul brood. Bee-men got scared and did not want to pay much for bees. In 1900 I picked up this ranch and moved my outfit here. I had several colonies that had foul brood. I gave them the McEvoy treatment, which was in no way satisfactory. With me, when shaking the bees on starters of foundation, more or less honey would fly outside the hive, and on the hive, when some robber-bees would come along, pick it up and take the disease home. Half of the shaken swarms would desert the hives and try to get into other hives, so I gave up that treatment.

In 1904 we had a hard year. I gathered up all the bees that had foul brood and pickled brood, and hauled them 6 miles from the apiary—27 colonies; set them out of the hives into a pile, threw some brush on them, and touched a match to them. It made a nice fire, and that was the best cure I ever struck, except the Baldridge treatment, if you want to save the bees.

In 1905 I had 3 colonies slightly affected. I gave them the Baldridge treatment, and cured them, and have had no disease since. The Baldridge and fire are both safe treatments. In using the fire treatment, don't burn them at the ranch for bees to go back and go into other hives. To keep your bees fat, with a good queen, I think goes a long way toward keeping the disease down.

My plan of uniting colonies I learned from Dr. Gallup years ago. At the commencement of the main honey-flow, all colonies that are not what they should be, or close to it, are united by putting a super on, and bringing the other hive up to it, and setting them into the super with a little smoke; close the hive and it is done. I have united hundreds, and have never yet found more than a dozen dead bees at the entrance from such uniting. Colonies that have been queenless long, and perhaps have laying workers, I let alone and throw swarms into them.

I never disinfect any hives where foul-broody bees were taken out, unless there was honey daubed on them.

Where bees could not reach the orchards or bean fields last year, in this locality, losses were heavy, as much as half the bees. There was very little honey in the mountains last year. Desert winds blighted the sage-bloom just when it was coming in.

S. Q. Conkle.

Garden Grove, Cal., March 28.

Bee-Keeping in Virginia

We have had a mild winter, yet it seems our bees are ill-fated, and must die. We have had 2 years of almost total failure, and, while bee-men are always hopeful, I am almost ready to predict another failure this year, as the soft-maple has already bloomed and was killed, for a start.

I have a bee-yard in North Carolina and one in Virginia. The one in North Carolina has depended upon me for their daily meals for 2 years, except for about 3 months last summer, and then they carried their support a distance of 5 miles from a 40-acre buckwheat-field here where I live; and had to climb the Blue Ridge Mountains, too. Now don't dispute this, for when I went to the apiary I went the same road they did, and there was no buckwheat in their vicinity.

Galax, Va., March 30. G. F. Jones.

Plenty of Rain—Crop Prospects Good

We have had plenty of rain here this winter, and crop prospects are very good, as nearly all the rains have come since Jan. 1st. Last season was a poor one, the bees getting very little honey on my ranges after the orange-bloom was over last May, and the season up to about March 10th was too cold, especially at night, for brood-rearing. The bees are therefore nearly a month late in starting their brood this year, and apiaries, in consequence, have dwindled badly, some apiarists losing as much as 50 percent of their colonies, and the rest of the bees being reduced to almost nuclei. Vegetation is late also, so may be the bees will have a chance to build up. John Lefler.

Mentone, Calif., March 24.

Bee-Keeping in Central Illinois

As I am a reader of the excellent American Bee Journal, I thought I would hunt up some of my neighbor bee-keepers and get them to subscribe for it.

I visited one who had 20 colonies of bees. He had them in old-fashioned box-hives, with only 2 cross pieces, and no way of getting the honey out except prying off, and that was like murder, for it drowned so many of the bees. His youngest son told me he had not tasted honey for over one year. His hives were so old and rotten that one could press the fingers against them and break a hole in them. Now can you tell me what a man like that keeps bees for? Is it to punish them? it looks that way to me.

I next visited his brother, and he had 18 colonies. They were also in the old-time box-hives, except one colony which was in an old beer-keg, and it was almost rotted down. The hoops were falling off, and the foundation was rotten and filled with ants. Some of his hives were rotting off at the bottom and falling over; some had rat-holes in them, and he had 8 hives in a wooden cage made of heavy oak 2 by 4's, and nailed together with 20-penny nails. The weeds had grown up around them until the bees had to work their way underneath the hives. I straightened the poor things up the best I could, and he thanked me for what I did, but I did not do what I did for his thanks. I did it for the sake of the bees. In spite of this awful condition the bees were working fine and bringing in pollen. They seemed to be strong and healthy. Now, this man never got enough honey to furnish his table, and there were only 2 in the family. I tried my best to get him to take the American Bee Journal, or Dr. Miller's book, but I could not get him to do anything.

What do you think of such men? If there are humane laws to protect the dumb beasts and the birds, ought not there to be a law to protect the little insects that so faithfully serve mankind and bring such a great blessing to him? Talk about heathen that ought to be enlightened, don't you think bee-men ought to have some missionary in the field working for better conditions?

I could give a great many more such cases in Central Illinois, but let this suffice to awaken a greater interest in bee-culture in Central Illinois. I am at present at South Bartonville, and I find conditions the same here. I visited one bee-keeper here and he said he had 20 colonies. I could not see anything but empty boxes. He is as cruel as a heathen in the South Sea Islands. He brimstones his young colonies in the fall and robs them, and that is the way he gets his honey for the market. So it is no wonder the price of honey does not advance when such muckers are allowed to place such an article on the market and call it honey! And this man claims to be an inventor of some kind of patent hive!

So let us get together and try to get a law passed that will compel a man who keeps bees to put them in some kind of modern hive, and give them protection, as he does his other stock. JOSEPH STANLEY.

South Bartonville, Ill., March 26.

Self-Cure Method for Foul Brood

The writings of Messrs. Dadant and Miller on the Stewart method of treating American foul brood I have read with much interest, as in Philadelphia and adjacent thereto we are having much American foul brood, and I, with my friends, have labored hard to wipe it out of existence. The man whose bees will carry out the dead, ropy, bad-smelling mass, would better run his bee-yards to rearing that stock, and send queens broadcast instead of misstatements.

The honey from American foul brood, if fed to clean colonies, would spread the disease wherever bees got a taste of it; and as to combs, the same would occur. The only safe way is to destroy totally by melting up the combs, and sell the honey labeled as "bad," and give the bees a new and clean home to start with.

I am afraid the publishing of such articles has spread the disease very badly, as I have had ten or a dozen inquiries on the matter, and I have always given them a reason for not trying all foolish sayings of men who *think* they are right. GEO. M. STEELE.

Philadelphia, Pa.

Foul Brood Law for New Jersey.—Through the efforts of the New Jersey Bee-Keepers' Association, the legislature of New Jersey has enacted a Foul Brood Law, which has been signed by the Governor, and is now in force. Inspection work is a branch of the State Entomological Department, and is to be conducted under the supervision of the State Entomologist, Dr. John B. Smith, of New Brunswick, N. J. Copies of the law, and information relative to inspection of apiaries, can be had upon application to Dr. Smith.

ALBERT G. HANN, *Sec.*

Pittstown, N. J.

We congratulate New Jersey bee-keepers upon their success in this matter.

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Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2Atf

FOR SALE.—New crop of Alfalfa Seed. 4 lbs. by mail, prepaid, $1.10; 25 lbs. by fgt. or express, 18c; 50 lbs., 17c; 100 lbs., $16. Also hulled White Sweet Clover Seed at the same prices. R. L. Snodgrass,
4Atf Rt. 4, Augusta, Kans.

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal.
117 N. Jefferson St., Chicago, Ill.

FOR SALE—100 pounds Dadant Medium Brood Foundation—5 pounds at 55c; 25 pounds at 50c; 100 pounds, or quantity left, at 48c.

100 cases second-hand five-gallon Cans, in good condition, at 35c; 15 cases or less, at 40c, f. o. b. cars at Kenner, La.
H. C. Ahlers, Saint Rose, La.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & Co.,
117 N. Jefferson St., Chicago, Ill.

NATIONAL LETTER-HEADS.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business-like. Every member of the National ought to use these letter-heads. They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at these **prepaid** prices, which are "cash with order:" 250 sheets, $1.30; 500 sheets, $2.00; 1000 sheets, $3.75. All orders are to be sent to Mr. France.

Poultry

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

FOR SALE.—Eggs from Hardy Fishel strain White Rocks—15 for $1.00; 100 for $5. Chicks, $10 per 100; $5 per 50. Circular free. 5A1t
B. T. Bosserman, Williamstown, Ohio.

White and Brown Leghorn Eggs and Chicks. 5 other breeds. Prices right. Safe arrival guaranteed. Bred for utility. Catalog free.
4A3t Deroy Taylor Lyons, N. Y.

ROSE COMB Rhode Island Reds, Red Cloud strain; beautiful birds, raised on free range. Eggs for hatching. Write for prices.
5A2t M. L. Main, Grand Valley, Pa.

S. C. R. I. Reds, fine red, large birds' eggs from exhibition pens, $2.00 for 15; pens 2, $1.00 for 15. S. C. Black Minorcas, prize-winners at five big shows, 15 snow-white eggs, $2.00. I. R. Ducks, true fawn and white, 13 eggs, $1.50. Satisfaction guaranteed in all my sales. C. O. Yost, Rt. 4, Winchester, Ind.

UTILITY EGGS—S. C. W. Leghorns, Barred Rocks—$4.00 per 100. Also Pekin or Runner Ducks, $1.00 per 13. Circular free. 4A3t
Premium Poultry Farm, Box 15, LaHarpe, Ill.

CHOICE STOCK.—Strictly pure-bred stock of White Plymouth Rocks, R. C. Rhode Island Reds, and Spangled Hamburgers, bred for laying as well as for show purposes. The White Rocks, and the Reds, are the best all-the-year-around layers, and are heavy and thrifty. The Hamburgers are as pretty chickens as ever were introduced in this country, and are good layers. Eggs, 75c per sitting of 15, of the above breeds. You can't buy better stock at three times my price.
5A2t Herman Fajen, Stover, Mo.

Honey to Sell or Wanted

I WANT good flavored Comb Honey in any kind of boxes; also Extracted. Give price.
3Atf O. N. Baldwin, Baxter Springs, Kan.

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin.

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases.

In the spring of 1899, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year) he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

Prices before July	1	6	12
Select queens	$1 00	$ 5 00	$ 9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00	....	....
Golden five-band breeders	6 00	....	....
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuc., no queen	3 50	20 00	35 00
Full colonies on 8 frames	6 00	30 00	....

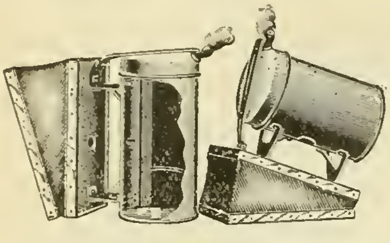
Add price of whatever grade of queen is wanted with nuclei and colonies; nuclei and colonies, if shipped before June 1st, add ¼, or 25%, extra to above price. No order too large, and none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5Atf

QUIRIN-THE-QUEEN-BREEDER,

BELLEVUE, OHIO

Please mention Am. Bee Journal when writing.

Gold Medals St. Louis Exposition, 1904. Jamestown Centennial, 1907.



Danzenbaker Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate**, forcing air **both ways**, makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest net capacity** of all smokers, selling at one dollar ($1.00). We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail.......................$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail.... 1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail....................... 1.00
With American Bee Journal one year, about 400 pages, by mail.............. 1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,
68-70 Woodside Lane, Norfolk, Va.

Please mention Am. Bee Journal when writing.

Queens That 'Are Better'
Italians and Banats

Untested, 75c each; $8.00 per dozen.
Tested, $1.25 each; $12.00 per dozen.
Select Breeders from full colonies; $3.00 each.

I also mate Italians with Banat drones from my honey-yards; these I can furnish at above prices.

All are guaranteed pure, and free from disease.

Write for wholesale prices of Bees, Nuclei and Full Colonies; also references. 4A6t

J. A. Simmons, Sabinal, Tex.

Please mention Am. Bee Journal when writing.

Bees for Sale

As usual, we will offer Italian bees in full colonies, and also nuclei for sale the coming season. Full colonies in 8-frame Langstroth hives, at $7.00 each; or in lots of 5 or more, $6.50 per colony; in 10-frame hives, $7.50 each, or in lots or 5 or more, $7.00 each. Three Langstroth-frame nuclei with queens, $3.75 each; or in lots of 5 or more, $3.50 each. Cash with order. These prices are f. o. b. cars 100 miles west of Chicago. Full colonies we expect to be able to ship any time after April 30th, and nuclei after May 30th. "First come first served." Address,

George W. York & Company,
117 N. Jefferson St., Chicago, Ill.

Please mention Am. Bee Journal when writing.

Queens Ready Now!
Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3 Band	Untested Queens,		1, $ 0.75;	6, $ 4.20
3 "	Tested "		1, 1.00;	6, 5.70
3 "	Breeder "		1, 5.00;	6, 25.00
5 "	Untested "		1, 1.00;	6, 5.70
5 "	Tested "		1, 1.50;	6, 8.70
5 "	Breeder "		1 10.00;	6, 50.00
3 "	Nuclei 1-fr. with	Unt. Queen		1.75
3 "	" 2-fr. "	" "		2.25
3 "	" 1-fr. "	Test. "		2.00
3 "	" 2-fr. "	" "		2.50
3 "	Full Colony "	Unt. "		4.75
3 "	" " "	Test. "		5.00
5 "	Nuclei 1-fr. "	Unt. "		2.00
5 "	" 2-fr. "	" "		3.00
5 "	" 1-fr. "	Test. "		2.50
5 "	" 2-fr. "	" "		3.50
5 "	Full Colony "	Unt. "		8.00
5 "	" " "	Test. "		9.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,
R. F. D. 3 LITTLE ROCK, ARK.

LINE-BRED ITALIANS

My bees being line-bred are very strong in reproductive qualities, and are powerful demonstrators of what can be accomplished by years of careful line-breeding and selection.

Extra-Choice Breeding Queens a Specialty.

The fact that other queen-breeders send to me for fine breeding queens is proof that my stock is O. K. Read what an ex-queen breeder of Lincoln, Nebr., says in part:

Lincoln, Nebr., Aug. 6, 1910.—You are at liberty to refer to me at any time, and I will cheerfully certify to the quality of your stock and your conscientiousness as a breeder. Yours, etc., Frank G. Odell.

I positively send out nothing but vigorous, well-developed queens; or, in other words, the kind that produce.

Untested queens, $1.00 each, or six $5.00; select untested, $1.25 each, or six, $6.00; tested, $2.00 each. Queens ready to send after June 1st. Send for instructive circular.

Walter M. Parrish, Lawrence, Kan.

P. S.—I can furnish either 3-Band or Golden Italian Queens; also Banat Queens mated to Golden drones.

Marshfield Sections
Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc. kept in stock. **Wholesale and Retail.**

Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

QUEENS
From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt. 1, Wapato, Wash.

Please mention Am. Bee Journal when writing.

SAVE
Your Queenless Colonies

Introduce a vigorous Tested Queen. We can supply them

By Return Mail for $1.00 Each.

Queens reared last fall from our well-known strain of Italians, and every Queen guaranteed.

Send for Price-List. 4Atf

J. W. K. SHAW & CO.,
LOREAUVILLE, Iberia Parish, LA.

Please mention Am. Bee Journal when writing.

Mexico as a Bee-Country

B. A. Hadsell, of Buckeye, Arizona—one of the largest bee-keepers in the world—has made 5 trips to Mexico, investigating that country as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated pamphlet describing the tropics of Mexico as a Bee-Man's Paradise, which he will mail free by addressing him— 4A2t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

Lone Star Apiaries Co.
Italian Queens

From Imported Mothers.

PRICES

One, $1.25; six, $7.00; 12 for $12. Breeders, $3.00.

Another Queen or your money back if not satisfied.

Write for descriptive Circular. 4Atf

LONE STAR APIARIES CO.
BIG FOOT, TEXAS.

ITALIAN Queens Direct from ITALY

—Extensive Apiaries—

E. PENNA, BOLOGNA, ITALY

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are pure and rightly mated. One selected fertile Queen, 90c.; two Queens, $1.60; six Queens, $4.50; one Breeding Queen, $2.00. Cash with orders. Queens postpaid. *The safe arrival is* NOT *guaranteed.*

Please mention Am. Bee Journal when writing.

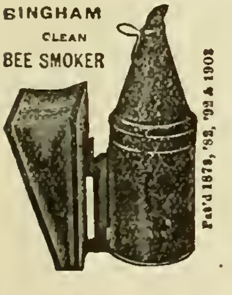
MARSHFIELD GOODS

BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

HAND-MADE SMOKERS



Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

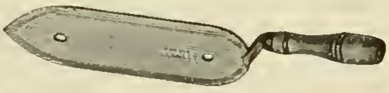
All Bingham Smokers are stamped on the tin, " Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.........	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other...........	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.



Patented, May 20, 1879. **BEST ON EARTH.**

Italian Queens Any Month

In the year, from my Jamacia, B. W. I. yard; from Yonkers after May 1. Italians, Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.50; Breeders, $3.00. Others 25c extra. Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Gleanings, Bee-Keepers' Review, A B C, and Langstroth for $3.50; by mail, 50c extra. "The Swarm," by Materlink, by mail, 75c; regular, $1.30. Root's supplies. Send for catalog. 3A1y

W. C. MORRIS, 74 Cortlandt St., NEW YORK, N. Y.
Apiary—Yonkers, N. Y.

SOUTHLAND QUEENS

Bred from the best Goldens. 3 - Band from Imported mothers. 25 years' experience as breeder. Untested, 75c. each; Sel. Unt., $1 each; Tested, $1.25 each; Sel. Tested, $1.75 each; Breeders, $3.00 each. Tested Queens are mated 3-Bands. Address,

N. Forehand, Ft. Deposit, Ala.

MOTT'S
Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, $1.00 each; $9.00 per doz. Natural Golden, from Imported Italian Stock, $1.10 each; $10 per doz. Reduced rates July 1st.

Nuclei and Bees by Pound.

List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for $1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

Cannot Surpass Them!

Famous Golden & Red Clover

Queens. Untested, 50 cts.; Select Untested, 75c; Tested, $1.00.
NUCLEI, $1.00 per Frame.

Evansville Bee & Honey Co.,
5A3t EVANSVILLE, IND.

Please mention Am. Bee Journal when writing.

Wanted

Fine Qualities of
White and Light Amber
Extracted Honey

Send samples with Lowest Prices, f. o. b. New York. Also state how it is packed, an the quantity you have.

We are always in the market for

◈ **Beeswax** ◈

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed !

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If seed is desired of the Yellow Sweet Clover, add 3 cents per pound to the above prices.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Golden and 3-Band Italian Bees & Queens | From Extra SELECTED MOTHERS

Prices	1	6	12
Untested..............	$1.00	$ 5.00	$ 9.00
Selected Untested....	1.25	6.50	12.00
Tested	1.50	8.00	15.00
Selected Tested.......	2.00	11.00	21.00
8-Frame Colony.......	6.00	33.00	61.00
3-Frame Nuclei........	3.75	21.25	40.00
2-Frame Nuclei........	3.00	17.00	32.00

Safe arrival. I am now booking orders for early spring delivery. Twenty-two years' experience. Send your orders to—

E. A. SIMMONS,
3Atf GREENVILLE, ALA.

Please mention Am. Bee Journal when writing.

"If goods are wanted quick, send to Pouder"
(Established 1880)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

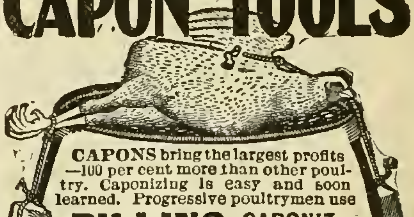
Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Walter S. Pouder, Indianapolis, Ind. **859 Massachusetts Ave.**

CAPON TOOLS



CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c. Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son Co., Philadelphia, Pa.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.
4Atf PROVIDENCE, R. I.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

☞ The oldest Bee-Supply Store in the East. 2Atf

Root Section Honey-Boxes

Concerning the importance of buying the best, and our ability to furnish sections of a superior quality to bee-keepers everywhere.

Our Section Making Department we believe to be the best equipped in the world. We claim superiority of workmanship in several respects, especially in smoothness of the dovetailing and the ends of the sections. They are polished on both sides in double-surface sanding machines, and are therefore uniform in thickness. Too much importance can not be attached to putting up comb honey in sections of uniform quality, and experienced honey-producers agree that **ROOT SECTIONS** of either A or B grades are a most essential investment.

Price-List of Sections

Root Sections come in several standard styles and sizes—with or without bee-way as follows:

4¼x4¼ BEEWAY SECTIONS.
2 inch, 1 15-16, 1⅞, 1¾ or-7-to-foot wide.

We send 1⅞ style 2 beeway when your order does not specify style or width wanted.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 50	5 00

PLAIN, OR NO-BEEWAY SECTIONS.
4¼x4¼x1½, 1⅞, or 1⅜; 4x5x1⅜ or 1½; or 3⅝x5x1½.

We send 4¼x1½ plain, or what will fit other items in your order, if you do not specify.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 25	4 75

One hundred sections weigh about 7 lbs.

Better Order a supply of **Root's Weed Process Foundation** with your sections. 1910 sales on this very superior product totaled nearly 200,000 lbs. Samples with full information and prices may be had upon request.

Remember—We carry complete stocks at this branch and guarantee quick delivery on sections in lots of 100 to 1,000,000, and on foundation and other supplies in any quantity. You ought to know the complete **ROOT LINE** for every appliance for successful bee-keeping. Get the new catalog—brimful of the most modern supplies priced at rock bottom figures for goods of the quality we have manufactured for more than 40 years.

THE A. I. ROOT CO., 213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr. (JEFFREY BUILDING) Telephone 1484 North.

Established 1885

ALWAYS ON TOP

We carry an up-to-date Line of

Bee-Keepers' Supplies

Prices the LOWEST in the West. Write us for our 50-page Catalog, ready to mail you. Free for the asking. We can fill your orders promptly and satisfactorily. Our old customers know what we handle; to new ones we can say that we have

The Best Make of Supplies

hence there is nothing to fear as to quality.

Send us your rush orders and get your goods before swarming-time arrives.

Bees and Queens in their season.

Beeswax taken in exchange for Supplies or Cash.

John Nebel & Son Supply Co.

High Hill, Montg. Co., Mo.

Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Illustrated Bee-book for beginners—"A gem." Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for—— 1Atf

"Falconer"

—— Write for Catalog.

C. C. Clemons Bee-Supply Co.

128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,

Berclair, Goliad Co., Tex.

Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. LYONS.

8A12t Rt. 5, Box 88, Ft. Collins, Colo.

Missouri-Bred Italian Queens—These queens are bred for results, having all the good qualities and will "show you" by filling the supers with honey. Prices right. Free Circular.

4A1y L. E. ALTWEIN, St. Joseph, Mo.

Special Prices for MAY

Only in Lots of 5 or more, in the Flat, delivered in Minneapolis.

	8-fr.	10-fr.
1-story Dovetailed Hives with Hoffman Frames, Division-Board, Reversible Bottom, Flat tin joint or Higginsville Cover, each	$1.10	$1.20
Above, with Colorado Cover, each	1.20	1.30
Above, with Metal top, double Cover, each	1.25	1.35
Above, with 9½-inch Telescope, with Metal top, double Cover, each	1.50	1.60
Supers for any style Section, with Section-Holders, Separators, Follower and Springs, each	.40	.45
9½-inch deep Extracting Supers with Frames	.65	.70

No Foundation or Sections included at above prices.
Do not delay in sending your order.
If goods are not as represented, will refund your money.
Write for prices in large quantities.

Minnesota Bee-Supply Co.

Nicollet Island MINNEAPOLIS, MINN.

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.) **Send for Catalog.**

148 West Superior St., CHICAGO, ILL. Enough said!

Please mention Am. Bee Journal when writing.

We are first hands for choice California-grown

YELLOW BLOSSOM

MELILOTUS SEED

(Sweet Clover)

For introductory purposes, and that bee-men may test this valuable California product, we offer to deliver at your nearest express office, all charges prepaid by us, one 5-pound package of hulled seed (will sow ⅛ acre) for $1.25; two packages, $2.25; five packages, $5.00.

Samples mailed, and larger quantities quoted.

The seed is from our own harvest, is fully matured, free from noxious weed-seeds, and possesses high germinating qualities.

If you wish other **California Grown Seeds**, write us. 5Atf

MERCANTILE & WAREHOUSE CO.,

141 Moss Ave., Oakland, Cal.

Please mention Am. Bee Journal when writing.

SEND FOR FREE

ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars, 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1⅜ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,

160 Newton Ave., N.,

3A6t **MINNEAPOLIS, MINN.**

Golden Untested Queens

Balance of season, 75c each. Safe arrival.

R. V. COX,

5Atf Rt. 4, GREENVILLE, ALA.

Comb Foundation

BEE-KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Speciaity of

Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

Mr. Bee-Man

We carry in stock the well-known

Lewis Beeware, Bingham Smokers, Dadant's Foundation, or Anything the Bee-Keeper may need. **Catalog Free.**

Beeswax Wanted.

The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Bee-Keeping and Poultry-Raising

Combined, can be made very profitable. A knowledge of the subject, which embraces all the latest and up-to-date information and interesting reading, can be found by reading the American Bee Journal and

The National Poultry Journal

which is published monthly; illustrates and describes how many successful poultry keepers make a good profit from their poultry. Subscription price, 50c the year, or

Four Months' Trial for 10c.

Address,

The National Poultry Journal, Business Offce, Elkton, Va.

The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

Increase Your Honey Crop

By introducing some of OUR **Famous Honey-Queens.** Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.**

Will sell Queens the following prices, May to Nov.: Untested Queen, $1.00; 6 for $5.50. Tested, $1.50; 6, $8.50. BREEDERS, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

Early Queens and Late Queens

Bred from pure 3 and 5 banded and Golden Italians. All queens are reared in strong colonies and mated in four-frame nuclei. All orders filled promptly.

Untested....$1.00; six, $4.50; twelve, $ 8.00
Tested....... 1.50; " 7.50; " 13.50

Breeders, $3.00. Three-frame nuclei, $3.00, with price of queen wanted added. Discounts for quantity. 4A6t

A. B. MARCHANT, Sumatra, Fla.

P. S.—Write me for a good proposition on bee-keeping, to the right party.

J. E. Hand

The Veteran Queen-Specialist

WILL begin the season of 1911 with greatly improved facilities for rearing the choicest queens. . . . Our queens are not only large, vigorous, handsome, and prolific, but by reason of a judicious system of line breeding they have the power to transmit inherent tendencies of a highly desirable nature, such as hardiness, gentleness, and industry, as well as uniformity of marking, which makes them especially valuable as breeders. Every queen is warranted to produce uniformly marked bees of superior honey-gathering qualities. Don't take chances. Get the real thing. Warranted, $1.00; six, $5.00; dozen, $9.00. Tested, $1.25. Breeders, $5.00. Half pound of bees, no queen, $1.00. Three (L.) frame nucleus, no queen, $3.25. No selection, therefore no culls, and a square deal for all. Valuable information free for your address.

J. E. HAND,
Birmingham, Ohio

Superior Golden Queens

Standard Breed

That have a record of 256 pounds of honey per colony. Gentle to handle, and Beautiful in Color; as hardy as any Strain or Race of Bees, and almost Non-Swarming. We handle them without gloves or veil, and but little smoke.

Untested, $1.25; 6 for $6.00; 12 for $10.00.

No disease.

If you want to know more about them, write us. All tested Queens sold until in June, then we will have them.

T. S. HALL,
Talking Rock, Pickens Co., Ga.

HONEY AND BEESWAX

CHICAGO, April 27.—Sales of honey are infrequent these days, and the free shipments that are coming are consequently difficult to place. Price hangs around the same figures we have been quoting of late, but the volume of sales are so small that we may say the market is *non est*. The stock of extracted honey is probably more nearly exhausted than it has been at any time for a number of years past, and if we have a good yield there ought to be an active market in the autumn. There continues to be a good demand for beeswax at 32c, if good color and clean.
R. A. BURNETT & CO.

BOSTON, April 25.—Fancy and No. 1 white comb honey, 14@15c. Fancy white extracted, 11@12c. Beeswax, 30c. BLAKE,-LEE CO.

INDIANAPOLIS, April 26.—There is a good and steady demand here for best grades of comb and extracted honey. Jobbing houses are well supplied, but practically none is now being offered by producers, and it is evident that there will be a shortage before the new crop can arrive. Fancy white comb is being offered at 18c; No. 1 white at 17c; extracted, 11c, with some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 29c cash, or 31c in trade.
WALTER S. POUDER.

CINCINNATI, April 26.—The demand for honey has slackened up considerably in the last month, owing to the approach of warm weather. While there are quantities of extracted honey on the market, the price remains about the same as it was some time back. We are selling the finest honey in 60-pound cans at from 10@11c per pound; amber honey in barrels, from 6@8c, according to the quality and quantity purchased. Comb honey is selling at from $3.75 to $3.85 per case from the store. We are paying 30c cash or 32c in trade for choice, bright yellow beeswax. THE FRED W. MUTH CO.

KANSAS CITY, MO., April 26.—Receipts of both extracted and comb honey are light; demand light. We quote: No. 1 white comb honey, 24-section cases, per case, $3.25@$3.35; No. 2, $3.00@3.15; No. 1 amber, $3.25; No. 2, $2.75@$3.00. Extracted, white, per lb., 8@8½c; amber, 7@7½c. Beeswax, 25@30c.
C. C. CLEMONS PRODUCE CO.

CINCINNATI, April 26.—The market on fancy white comb honey is exhausted. There is no demand for amber or off-grade comb honey. White extracted honey in 60-lb. cans brings 10c per lb.; light amber in barrels, 7½c. Beeswax is in fair demand at $34 per 100 lbs.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

ZANESVILLE, OHIO, Ayril 27.—There seems to be a slight slackening in the demand for honey here. In a wholesale way best grades of comb bring 18@19c; extracted, 10½@11c. For beeswax 28c cash, or 30c in exchange for merchandise is being offered producers.
EDMUND W. PEIRCE.

NEW YORK, April 27.—We have some demand for fancy and No. 1 white comb honey, and are gradually reducing our stock; lower grades, however No. 2 white, mixed and buckwheat are entirely neglected, and almost unsalable at any firm figure. We quote: No. 1 and fancy white comb at from 14@15c per pound; all other grades at from 8@11c per pound, according to quality. Extracted is in good demand, for white and light amber; but little supply, and firm prices. Beeswax quiet at from 29@30c.
HILDRETH & SEGELKEN.

DENVER, April 30.—Demand for honey is lighter than usual for this time of year. We make the following jobbing quotations: No. 1 white comb honey, per case of 24 sections, $3.15; No. 1 light amber, $2.93; No. 2, $2.70. White extracted honey, 9@10c per lb.; light amber, 8¼@9c. We have no amber to quote. We pay 26c cash, or 28c in trade, for average yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for June

One Untes. Queen...	$0.90
" Tested " ..	1.30
" Select Tes. " ..	1.60
" Breeder Queen..	2.45
" Comb Nucleus—no queen........	.95

Safe arrival guaranteed. For prices on larger quantities, and description of each grade of Queens, send for for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

FOR SALE—Bees and Queens reared from Imported Mothers. Gentle and Hardy.
Simmins' PEDIGREE W. S. Strain SURE HONEY-GETTERS.
American Apiculture and Farming Co., St. Louis, Mo.

ALMOST READY

To what stage have your preparations for the coming season advanced? Are you almost ready? Have you anticipated a generous honey-flow—the big crop we are all looking for? or have you timidly stocked up on sections, extra supers, foundation and other supplies so essential to successful bee-keeping?

Get Ready Now!

You save absolutely nothing by waiting; and, on the other hand, a little delay may mean a serious loss to you. Just the time when you are going to need that small rush order, other bee-keepers, who have also waited, are going to be in a big hurry, too. We never have to remind our friends of our convenient location and well-fitted warehouse in the season of honey-flow. We get orders just as fast as we can possibly attend to them; but this service is not satisfactory, as a rule, to the patron who wants IMMEDIATE shipments. The only way to avoid all danger of delay is to order far enough in advance to get in ahead of the other man's order. Give us a little time to put your goods up in a careful and painstaking way—to make shipments over the cheapest routes—to serve you as we always try to do.

Let us remind you again of our new catalog. This is a book you ought to have. It lists all the approved appliances of modern bee-keeping, and prices them at figures that will save you money. Better not wait longer if you have not received your copy—GET IT TO-DAY!

Remember, if you please, our excellent facilities for prompt and satisfactory shipments. We take care of all orders very promptly—in season or out. Our patrons know that Prompt Shipments and Complete Stocks are Weber recommendations; but we suggest EARLY ORDERS that you may not be disappointed. Even a few hours' time seems terribly long to wait when a few hundred sections are needed. We have experienced these delays—we want to help you guard against them. The ONLY WAY is to ORDER NOW!

Poultry Supplies A special catalog of these Goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

“Falcon” Foundation

In our hive and bee-keeper’s supply plant, foundation manufacture has been a specialty. We were in the business long before the advent of foundation-mills. We manufactured it by the old dipping and press process. “We have grown up with the business.” Have had our share in developing it. Numerous experiments and long experience in wax-working have made us masters of the subject. **“Falcon”** foundation is the result—a product unsurpassed by any other make. . . . . Write for samples.

Dewey Foundation Fastener

One of Many

Puyallup, Wash., April 10, 1911.

W. T. Falconer Mfg. Co., Chicago, Ill.

Dear Sirs:—Will you please forward me samples of “Falcon” foundation? . . I have one of your Dewey Foundation Fasteners which I ordered from your New York house, and would not part with same for $10 if I could not have another like it. They work as easy and perfect as a clock.

Yours for success. P. A. Norman.

Our three new 1911 carload distributing houses give Dewey Fasteners with orders for three thousand or more **“Falcon”** sections.

The “Falcon” Brand

A “Falcon” THERMOMETER

With Your Bee - Supplies

To introduce our three new carload distributing points, a Thermometer is included with first orders of a certain size.

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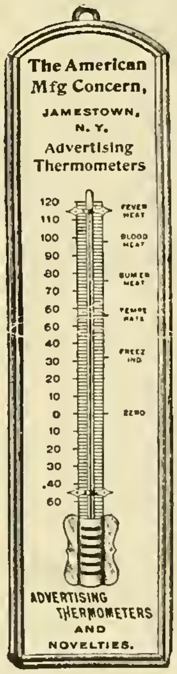
130 Grand Ave., Kansas City, Mo.

ROSS BROS. CO.,
90 Front St., Worcester, Mass.

W. T. FALCONER MFG. CO.,
117 N. Jefferson St., Chicago, Ill.

Write them for particulars and a copy of our “Red Catalog.”



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From Your Nearest Dealer

The Fred W. Muth Co., 51 Walnut St., Cincinnati, Ohio.
Deroy Taylor, Lyons, Wayne Co., N. Y.
Cull & Williams Co., 180 Washington, St., Providence, R. I.
Hudson Shaver & Son, Perch River, Jefferson Co., N. Y.
A. M. Applegate, Reynoldsville, Penn.
Clemons Bee-Supply Co., 2d and Grand Ave., Kansas City, Mo.
J. R. Rambo, Collingdale (near Philadelphia), Penn.
Branch, W. T. Falconer Mfg. Co., 117 No. Jefferson St., Chicago, Ill.
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Many other dealers in this country handle our Goods, and they can be purchased in nearly every country on the Globe. Write for name of your nearest dealer.

W. T. FALCONER MFG. CO.

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AMERICAN BEE JOURNAL

Volume LI. No. 6.

1831 June 10 1911

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Dr. C. C. MILLER, MARENGO, ILL.

The Nestor of American Bee-Keeping.

* * *

"With the chance
To get more happiness out of each day so long as my days may last; and
With the chance
To have them last longer than in any other business,
Why shouldn't I be a bee-keeper?"

—*Dr. Miller, in American Bee Journal, page 38.*

Where Dwells Marengo's Happy Sage.

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JUNE
1911

Dedicated to Dr. C. C. Miller, on his 80th Birthday,

ADOWN THE WESTERN SLOPE

BY EUGENE SECOR.

I

The sun hangs low;
Evening is coming on:
But burnished clouds reflect a mellow glow,
Portending fairer skies anon.

II

I hear a wood-thrush sing
His evening strain—
As gentle as a summer rain.
My soul by faith takes wing
To that Home-Land
Where harp th' angelic band
In God's own fane.

III

So doth a sunny spirit
Bless, like the thrush,
That cheers from morn till twilight's hush;—
It blesses men who bend with cares that crush.
With never a soul to fear it.

IV

Not lapse of years, but carking cares
Make men grow old.
A smile, a kindly eye,
A cheery word, a soft reply,
Are worth a pot of gold.
Along the road with us one fares
With a heart so light—
A life so clean and white—
Old Father Time is mollified,
His rusty scythe hangs by his side.
We hope he will his stroke withhold
Until our friend is REALLY OLD.

Forest City, Iowa.

AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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Nothing less than 4 lines accepted.

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6 " 12c " 12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.
Goes to press the 6th of each month.

National Bee-Keepers' Association.

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

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Crown Bone Cutter
Hens fed cut green bone lay more eggs. Get a Crown Bone Cutter. Send to-day for catalogue.
Wilson Bros., Box 814, Easton, Pa.
BEST MADE
Lowest in Price

Untested Italian Queen-Bees

Our Standard-Bred

6 Queens for $4.50; 3 for $2.50; 1 for 90 cents.

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co, Kan, July 15. A. W. SWAN.

GEORGE W. YORK & CO.:—After importing queens for 15 years you have sent me the best She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada July 22. CHAS. MITCHELL

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22. N. P. OGLESBY.

GEORGE W. YORK & CO.:—The queen I received of you a few days ago came through O. K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. McCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for $1.60. Three Queens (without Journal) would be $2.50, or 6 for $4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

George W. York & Co., **Chicago, Ill.**

Please mention Am. Bee Journal when writing.

Catalog describing the **BEST** and the **CHEAPEST** BEE-SUPPLIES, in the Country. Yours for the Asking.

Eggs of Barred and White Plymouth' White Wyandotte, now at 25c less on the dollar per sitting of 15.
Day-old Chicks at 10c each.
Personal attention given to all letters.

H. S. Duby, St. Anne, Ill.

QUEENS
Scoggins - Noted - Strain

Accidentally discovered the greatest honey-gatherers known. Cross of Cyprians and Italians. Thoroughly tested 8 years for honey. If it's honey you want, buy these Queens. Price, $1 to $5, for introduction. Only few extra-fine Breeders for sale. 5A3t

J. B. SCOGGINS, FOUKE, ARK.

Now for 1911 Bee-Supplies

We have already received several carloads of that "finest of all Beeware"—**FALCONER MAKE**—anticipating the heavy rush of orders sure to come this spring. Prepare yourself NOW, Brother, for we are going to have a Heavy Honey-Yield this season, and those who order early are the ones who will profit most. Send for Catalogue TODAY, and see our "MUTH SPECIAL" Dovetailed Hive, and also our "IDEAL METAL" Cover—both DANDIES. We sell you cheaper than the rest; we have the BEST. Let us figure on your wants—we will surprise you.

The FRED W. MUTH CO.
"THE BUSY BEE-MEN"
51 Walnut Street, **CINCINNATI, OHIO**

Please mention Am. Bee Journal when writing.

BEE-KEEPERS

Who are in want of SUPPLIES will please send in their orders now. I have a fresh supply of everything needed about the apiary—standard goods with latest improvements. **Root's Quality** is unexcelled. Inquire about the **Hand Double - Bottom Board.**

Bees and Queens
in their season.
Send for Bee and Supply Catalog

EARL M. NICHOLS,
(Successor to W. W. Cary & Son)
LYONSVILLE, MASSACHUSETTS

Please mention Am. Bee Journal when writing.

Extra-Good Queens!

So sure am I that my Leather-Colored Italian Queens are Extra-Good, that I will guarantee them to please you, or return your money.

"S. F. TREGO:—I am very much pleased with your Queens, and you may expect more orders next season. Your Queens are the best I ever bought from any breeder in the U. S.—A. R. BRUNSKILL, Canada."

One, 90c; six, $4.75; doz. $9.00.
After July 1st, 70c; six, $3.75; doz $6.50; 20 or more, 50c each.
No disease. Prompt shipment. 3A7t

S. F. Trego, Swedona, Ill.

"GRIGGS SAVES FREIGHT"

TOLEDO

Is the Place ALL Successful Bee-men have their EYE on Now.

The Honey-Flow

Will soon be upon you. **Wake Up,** you I'm speaking to! Don't you hear me?

Why not let me have that Order NOW? I can give **Quick Service** and **Low Freight-Rates.**

Hurry it along. Tell your neighbor.

Honey and Wax Wanted.

Send Postal for my Catalog.

S. J. Griggs & Co.,
24 North Erie St.,
TOLEDO, - OHIO.

Successors to Griggs Bros Co.

"GRIGGS THE KING-BEE."

Italian Queens From MOORE'S famous strain. Enough said! None better. One, 90c; 6, $4.50. Order early.
4Atf **H. A. JETT, Brooksville, Ky.**

SUPERIOR BEE-SUPPLIES

Specially made for Western bee-keepers by G. B. Lewis Co. Sold by
Colorado Honey-Producers' Association,
DENVER, COLO.

The ASPINWALL Non-Swarming Bee-Hive

Now a practical and commercial Success after 22 years of Experimentation.

Will Double the Yield of Comb Honey

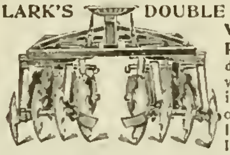
Every Bee-Keeper should satisfy himself as to our claims by ordering, at least, one Sample Hive and testing it.

Descriptive Circular with prices mailed free.
Address the Makers,

Aspinwall Mfg. Co., 602 Sabin St., **Jackson, Michigan.**

Canadian Factory—GUELPH, ONT.

The World's Oldest and Largest Makers of Potato Machinery.



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R. A. BURNETT & CO.
199 S. Water St., CHICAGO, Ill.

Famous ITALIAN Queens
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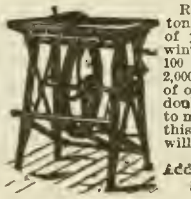

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EDITORIAL COMMENTS

National Convention at Minneapolis, Aug. 30 and 31.

We suppose that all our readers are bearing in mind the next annual meeting of the National Bee-Keepers' Association in Minneapolis, Aug. 30 and 31, 1911. It is a little early yet to know just what the honey harvest is going to be for 1911, but certainly all will hope that it will be sufficient to permit every-one to attend the next meeting of the National who desires to go. It is to be held right in one of the best honey-producing districts of the United States—where bee-keepers are accustomed to attend conventions; surely it ought to be the best attended of any meeting the National has had in many years.

There are some very important questions to be decided at this meeting, which will affect bee-keepers of the whole country in various ways. The Constitution should be thoroughly revised so as to permit the Board of Directors to take some progressive steps in the interest of the whole membership. It is to be hoped that the very best ability to be found on this continent will be present, so that such necessary action may be taken looking to the advancement of the bee-keeping industry, as shall have the unanimous vote of the membership of the National next November.

The Executive Committee—which is composed of the President, Vice-President, Secretary and Treasurer—will be glad to receive suggestions from any and all members who think they can help to put bee-keeping on a better business basis than it occupies to-day. We hope there will be no hesitation on the part of any member to send in any recommendations that he or she may feel is important.

The time of the meeting—Aug. 30 and 31—may be a little early and somewhat inconvenient for some bee-keepers, but we doubt not that a great many will be able to get away from their work and homes for a few days at that time of the year. We hope that a large number will feel that they ought to make some sacrifice in order to be present. In the meantime, we trust that there may be such a great harvest of honey gathered that all who have the least desire to attend the Minneapolis convention will feel that they can afford to spend the necessary time and money to make the trip.

We expect to be able to announce the railroad schedule next month; and no doubt by the time of our August issue a full program of the convention will be ready for publication. Secretary Tyrrell has an opportunity now to build a fine program, and we have no doubt he will be equal to the job.

◆

Color of Queens

Of two queens alike in all other respects, the lighter-colored one is likely to be preferred. R. Beuhne, at a meeting reported in the Australasian Bee-Keeper, gave instances in his own experiments where, in choosing the light-colored queen and keeping separate records, he proved that out of the same batch of queens the darker ones proved equal to the lighter, and longer lived.

Space Between Old Combs

In the Irish Bee Journal, Editor Digges says that according to Dr. Miller cells do not become smaller with age, the bees prolonging the cells as the septum becomes thicker, and Mr. Digges then says:

> "Now in combs 30 years old, in frames with fixed supers, can the cell-walls be extended indefinitely without closing the bee-space between the combs? One eighth inch or more leads to ¼-inch or more off the ⅝-inch space between the combs, reducing the space to ⅜-inch or less."

Undoubtedly, as the septum increases in thickness, if there is no change in the spacing of the combs, from center to center, the space between the combs must become smaller. But our esteemed cotemporary must have been suffering from a fit of carelessness when he did his figuring. He figures that ⅛ inch added to the septum takes ¼ inch off the space between combs. There's only one septum for each space, so that ⅛ inch added to the septum can take away only ⅛ inch from the space. He assumes ⅝ space between two new combs. That can only be if the combs are spaced 1½ inches from center to center, which is not the usual spacing. With the usual spacing of 1⅜ from center to center, the space between two new brood-combs is ½ inch, and ⅛ inch taken from that leaves ⅜; so that Mr. Digges' final result is all right. Trust an Irishman to land on his feet!

Do Bees Prefer Salted Water?

This question having been asked, Herr Schachinger the man who answers questions in Bienen-Vater put the matter to the test. He put in one vessel pure unsalted water, and in a similar vessel by its side he put water slightly salted. Some 20 observations in the following afternoon showed the unsalted water well visited (30 to 40 bees, sometimes), while very few bees visited the salted water. At the same time the bees were thick upon the liquids coming from his pig-pen. He says he does not know whether the bees worked upon this liquid because of some elements it contained or merely because it was warm.

Stingless Bee to Be Developed!

Under this heading the following item is going the rounds of the daily press:

> "The new bee-keeping bureau of the Massachusetts Agricultural College has set itself the task of developing a bee that will not sting, and that at the same time will be twice or three times as industrious as the bee of to-day."

In an editorial of half a column the Chicago Record-Herald discusses the change, and counts as one of the advantages the fact that the barefoot boy trudging his way to school need no longer fear to step upon a bee. But losses from the change will not be lacking. "What fun will there be in picking a bee off a dandelion by its gauzy appendages if the element of danger—the ever imminent possibility of being stung—is removed? And what thrills possibly can come from hiding indifferent, plodding, stingless bees in teacher's dinner-pail?" And what chance will there be for glorying over the fact of hiving a swarm of bees in a brave and fearless manner if there is nothing to fear? And what will take he place of bee-stings for rheumatism?

The probability is that Dr. Gates and his able coadjutors will be as much surprised as any one to learn of the great changes under contemplation.

sle of Wight Bee-Disease

This mysterious disease has no immediate interest for American bee-keepers only as they have a fellow feeling for bee-keepers everywhere, but it may have a tremendous interest for hem in the future. According to a report in the Irish Bee Journal, there can be little doubt the disease is of an infectious nature, and from the way it has spread it is almost too much to hope that it will never reach this country. Appearing in 1904, by 1908 it had succeeded in wiping out all the bees on the Isle of Wight, and in 1909 it had crossed the narrow channel and has since been found in several counties in England and 2 counties of Scotland.

Seemingly more fatal than foul brood, it bears little resemblance to that disease, for the adult bees are the ones that suffer, while the brood remains healthy. The field-bees are the first to suffer, and generally the disease is confined to them. There is first a disinclination to work, and gradually the power of flight is lost. The colon becomes enormously extended, which might happen to any bee when not allowed to fly so as to empty its intestines. There is, however, an unusual amount of undigested pollen in the colon, there being apparently an inability to digest the pollen-grains, and the colon thus presents a bright yellow color, although sometimes dirty brown. What the microbe is that produces the disease, if a microbe it is, no one yet knows.

Let us hope it may take the disease a long time to cross the Ocean.

Color and Bees' Temper

D. M. Macdonald occupies a page of the British Bee Journal in trying to show that bees are no more likely to sting dark-colored objects than those that are light-colored. Perhaps it is not of great importance that the matter be settled once for all. Those who think black clothing likely to irritate bees are at liberty to wear clothing of light color, and *vice versa.*

Mr. Macdonald spoke to three clergymen on the subject, "and all declare positively and emphatically the idea is a myth, without any foundation in reality." One can not but wonder what proof they could offer that allows them to speak so "positively and emphatically." The mere fact that they have never seen any proof of special dislike for black on the part of the bees is hardly proof that such dislike does not exist. On the other hand, what will they do with those who declare that they have known bees to sting black chickens or horses while those of light color went scot free? Says Mr. Macdonald:

> "My veil is black, in common, I suppose, with the majority of these indispensable pieces of armor, worn to defend us from the wrath of the bee. Has it ever been seriously proposed by any sane bee-keeper that the colors should be changed in order that stings might be decreased?"

Mr. Macdonald is a well-informed man. In the present case he must be accused of ignorance or of lack of candor. It is easier to believe that he may be ignorant on a single point than to believe that he is lacking in candor; so it is a great pleasure to add to the stock of knowledge of one already so well equipped by telling him that the reason bee-keepers—at least bee-keepers "in this locality"—wear black veils, is because they think they can see much better with black veils, and because looking through a black veil does not injure the eyes as does looking through a white one. He may rest assured that there is one bee-keeper who, if it were not for the objections mentioned, would not only seriously propose, but would act on the proposition, to change from black to white, even at the risk of having his sanity questioned by so good a man as Mr. Macdonald.

Getting Bees Started in Sections

R. D. Bradshaw, an Idaho bee-keeper, reports in the Bee-Keepers' Review, that in the year 1906 he produced 34,000 pounds of comb honey; in 1907, 32,000; and in 1908 he produced 43,200 sections. When a man "does things" like that, his word is entitled to respect. So we are interested in knowing what are his views as to getting bees to start work in sections.

Plainly, not by the use of bait-sections. He says:

> "I don't like bait-sections. Honey produced in them is usually inferior." Later on he says: "Give me thin top-bars in brood-frames. I would much rather have a few burr-combs than not to have the bees readily enter the supers. We must have our sections as close to the brood as possible."

Mr. Bradshaw is not the only one who objects to using bait-sections. Probably no one denies that bait-sections will start bees to work in the supers as soon as any other means, if not sooner. So the objection to using them must be something rather serious. As to how serious, some idea can be obtained by considering what Mr. Bradshaw is willing to endure for the sake of getting the start made without resort to baits.

He depends upon nearness to the brood-combs by means of thin top-bars. He admits burr-combs as a result of this; but he evidently prefers burr-combs to the greater evil of baits. He does not mention it, but there is another evil that he endures with thin top-bars. The nearness of sections to brood-combs, while favoring early start in sections, equally favors carrying dark comb from the old brood-combs to be used in sealing the sections; thus spoiling their snowy whiteness. This unless the brood-combs are new.

I don't know how thin are the top-bars in question, but for years I used top-bars ⅜-inch thick, and there was considerable sagging because of their thinness.

Clearly there must be something pretty bad about bait-sections to make one undergo increase of burr-combs, darkening of sections, and possible sagging of top-bars, for the sake of avoiding them. And yet, although I have been using bait-sections nearly as long as I have been using sections, I would regard either one of the three troubles mentioned as being greater than any trouble with bait-sections, to say nothing about taking the whole three together.

What is the objection to bait-combs? Mr. Bradshaw says, "Honey produced in them is usually inferior." I think I never heard of any other objection. Note, the honey produced in them is not *always* inferior, but *usually* inferior. One may fairly understand from that that some bait-sections are all right, and some are objectionable. So there is a difference in bait-sections after they are filled, and in that I suspect lies the secret of the whole trouble. If some of them are objectionable, I believe it is possible to have all so, and when any of them are objectionable I believe they were objectionable at the time they were given to the bees as baits.

I have no desire to plume myself unduly as to the number of bait-sections I have used, but having used them for so many years, and having always used one or more bait-sections (usually only one) to get each colony started, I think I may speak with some degree of authority, and I do not hesitate to say that I can have bait-sections filled that shall be of first quality every time. If I can tell beginners how to avoid the bad and to secure the good, I may be doing a service.

If bait-sections are to be of best quality when filled, they must be of best quality when given. Some have used baits that contained honey from the previous year, and this honey not having kept in perfect condition, the result was unsatisfactory. I know that an eminent authority says that the bees will empty out such sections, and fill them with honey. I do not think I can trust my bees to do that.

Some have left sections on the hive in the fall until a good many days after the close of the harvest, and these sections have become darkened with travel-stain and bee-glue. Then they were used for baits the next season, and of course the product would be unsatisfactory.

Do not allow sections to stay on the hive to be spoiled after the harvest closes. When taken off there will, of course, be sections in all stages of progress, from those in which the bees have just begun to draw out the foundation up to those that are entirely finished. Any of these may be used as baits, the most satisfactory being perhaps those that have been about half filled, although without any sealing. Let them be emptied of honey and thoroughly cleaned out by the bees soon after being taken off, and if these are given as baits the next year there is no reason why they should not turn out as nice sections as their neighbors.

After all, it is not a matter of such very great importance that these bait-sections should be as good as the best. Only one bait-section is needed for each colony, that one being given in the center of the first super given. If that one section is not of the very best quality, the loss in value will be only about 2 cents. Better lose that 2 cents than to lose more by having a number of sections darkened by having the sections too near the brood-combs.

If one prefers, one may also extract the honey from the bait-sections, and they may be used as baits year after year. The darker they become the more attractive they seem to be to the bees. C. C. M.

MISCELLANEOUS NEWS ITEMS

Death of W. Z. Hutchinson. Just as we were closing the forms of this number of the American Bee Journal, we received the sad news from Mrs. Hutchinson, that Mr. Hutchinson passed away at 2 p.m., Tuesday, May 30, 1911. All our readers will join with us in extending sincerest sympathy to Mrs. Hutchinson and family in their bereavement. Particulars next month.

◆

The Treatment of Bee-Diseases is the title of Farmers' Bulletin No. 442, just issued by the Department of Agriculture, having been prepared by Dr. E. F. Phillips, In Charge of Bee-Culture. It should be in the hands of every bee-keeper, as it not only tells how easily to detect bee-diseases, but also how any bee-keeper can treat them. Address the Secretary of Agriculture, Washington, D. C., for a free copy.

◆

A Convention and Field-Day for bee-keepers will be held at the Massachusetts Agricultural College at Amherst, Mass., June 6th and 7th. It will be the closing feature of the Short Course in Bee-Keeping, which began May 24th. A specially fine program has been arranged by Dr. Burton L. Gates, who has charge of the apicultural work at the college. The following are on the program:

A. A. Byard, Kenyon L. Butterfield, Hon. J. Lewis Ellsworth, Anna Botsford Comstock, Dr. James P. Porter, E. R. Root, Dr. James B. Paige, Arthur C. Miller, O. F. Fuller, and H. F. Cary. There will be a great time, and every bee-keeper in that part of the country who can possibly "get there" should not fail to be present.

◆

Samples of Diseased Brood Wanted.—The United States Department of Agriculture is doing a great work in the interest of bee-keepers. In view of this, the Department should have the hearty co-operation of all who are interested in bee-keeping throughout the whole country. As all of our readers know, Dr. E. F. Phillips has charge of all the work being done by the Government along the bee-keeping line. The Department will continue the work of the investigation of bee-diseases during the present season, and is anxious to obtain samples of diseased brood for examination. If any of our readers suspect that their bees are diseased, they will not only be helping themselves, but will also do a favor to the Department of Agriculture, if they will send samples of such suspected brood for examination. Before doing so, however, if they will write to Dr. Phillips, he will send each applicant a tin box and a frank, which will entitle them to free postage in mailing any samples they may desire to forward. Address as follows: Dr. E. F. Phillips, In Charge of Apiculture, Bureau of Entomology, United States Department of Agriculture, Washington, D. C.

◆

The Aspinwall Non-Swarming Hive.—Something over 20 years ago, Mr. L. A. Aspinwall began the construction of a non-swarming bee-hive. He now feels that the last two seasons have demonstrated its complete success. Although the seasons were not such as to induce excessive swarming, the tests were made with the strongest colonies among those which for a series of years seemed to have the greatest tendency to swarm.

We show herewith a good picture of the Aspinwall non-swarming hive. It is provided with slatted frames alternated with the brood-frames. This arrangement affords a very large supering surface, so that 2 supers of 35 sections each are placed side by side, making in all 70 sections immediately above the brood-chamber. No separators are used in the supers, and the alignment of spaces in the supers is perfect with those between the brood-combs and slatted frames. In other words, 4 rows of sections are placed over the slatted frames as well as over the brood-frames.

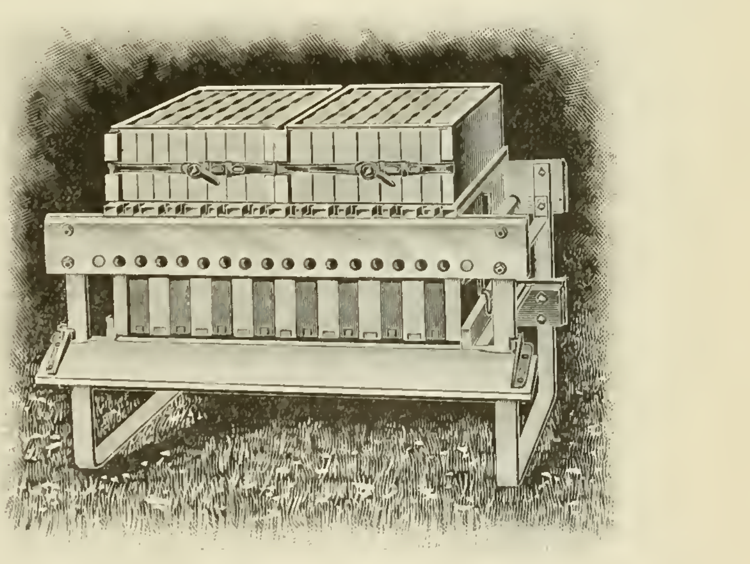
We had the pleasure of an interview with Mr. Aspinwall, the inventor of this hive, at the last meeting of the Michigan State Bee-Keepers' Association, at Grand Rapids, last November, where he had on exhibition the hive shown herewith. He explained its workings before the convention, and believes that he now has something that will fulfill every requirement of the comb-honey producer.

As no separators are used in the supers, one would naturally expect a large number of bulged sections of honey. While the comb surfaces are not quite as smooth as when made by the use of separators, they are commercially all right, and can be easily put into shipping-cases. Out of 2000 sections of honey produced last season by Mr. Aspinwall, there were not more than 2 dozen that were bulged, and these were produced over weak colonies, quite late in the season.

A very strong claim made by Mr. Aspinwall is that, by the use of his hive, double the amount of honey as compared with other hives can be produced, and but one manipulation is required—which is, introducing the slatted frames; and withal the queen remains active and unhindered in her work of egg-laying.

It is the desire of Mr. Aspinwall to place a limited number of hives preferably in the hands of experienced bee-keepers. If the hive produces the same results in their hands in the various localities, as it has done under Mr. Aspinwall's personal management, it may be considered an unquestionable success.

Like all new inventions, many difficulties had to be overcome in order to



THE ASPINWALL NON-SWARMING HIVE.

place this hive on the market at a reasonable price, or one that would justify a purchase based upon the promised results. This has necessitated special machinery in its manufacture, and has involved large expense, and consequently considerable delay, as the hive has been mentioned many times in the bee-papers during the past 10 or 15 years. It is hoped that Mr. Aspinwall has now so perfected his hive that it will do all he claims for it, even in the hands of the less expert bee-keepers.

Mr. Aspinwall is a bee-keeper of something like a half century's experience, and has been prominently before the bee-keeping public for a long time. Some years ago he was president of the National Bee-Keepers' Association, and last year was the president of the Michigan State Association. His inventions in other lines have brought him a world-wide reputation, and now, if his non-swarming hive is proven an unquestioned and invariable success, he will have added another large laurel to his already very honorable accumulation. We certainly wish him and his hive all the success that he and his long years of untiring efforts so well deserve.

Spreading Hives in Center of Apiary.—J. F. Munday has had the experience that on *level* ground with hives in parallel rows, the bees in the central rows do not store so much, and do not winter as well, as those in the outside rows. He says in the Australasian Bee-Keeper:

> I used to have about the same number of hives in each row. I had 6 rows and about 15 hives in each row, the hives being placed 8 feet apart, and the rows 10 feet apart. For the last 2 years I have had my hives in the outside rows placed much closer together, being only 3 feet apart, and the hives in the central rows placed further apart, about 15 feet. The apiary contains about the same number of hives, but they prosper considerably better, yield more honey, and the colonies in the central rows maintain their strength and stability better.

Tobacco Honey in Connecticut.—"Connecticut, strictly speaking, is not a honey-producing State," says E. H. Shattuck in Gleanings. "not over 50 colonies being profitable in one location, and 20 to 25 being much more productive. The farmers depend mostly upon tobacco, and thousands of acres are raised in Hartford county within reach of an apiary." The plants are topped when about 4 feet high, so that no blossoms are allowed, making tobacco of no value to the bees; but a great change in the method of culture is now taking place, the plants being stripped of the leaves and the blossoms being allowed to grow, and they continue from Aug. 1st till frost. As the honey is of good quality this ought to make a material difference to Connecticut bee-keepers.

Are Our Bees Losing Vitality?—Under this heading, I. Hopkins, a high authority, says in part in the Australasian Bee-Keeper:

> I can quite understand that there may be other factors than the grafting system of queen-rearing, as Mr. Beuhne suggests, to account for what, at least, seems well founded, that our bees are losing much of the vigor and virility they formerly possessed; but I firmly believe it is the chief factor in the problem. I have no doubt that it is possible for the most careful breeders, who take the greatest care in their work, to rear a fair number of good queens by the process, but in my opinion it lends itself so well to the careless or slovenly man whose aim is number, without heed of quality, that it is a positive danger to the industry.
>
> The forcing process, by which I mean queen-rearing at all times during the season is, I believe, another evil. I have no hesitation in saying, after paying very close attention to the matter, that the very best queens are those reared in the spring at the first of the swarming season. The queens, drones, and workers are then in full vigor and at their best, and it corresponds with the period when for long ages bees in a state of Nature have reared queens to form new colonies. Mr. Beuhne has very properly drawn attention to this forcing.

Bee-Diseases in the U. S.—This is Circular No. 138, the full title being "The Occurrence of Bee-Diseases in the United States" (Preliminary Report). It gives the data concerning diseases which was in the hands of the Government previous to March 1st of this year. It shows in each State just what counties have foul brood, both the American and the European brand of the disease. For instance, Illinois has 32 counties having American foul brood, and 12 more counties where it is suspected; also 29 counties where European foul brood exists, and 7 more where it is suspected. About 1800 samples of diseased brood have been examined by the Bureau of Entomology. A great work has been done by the Government, and the appropriation to push the work has recently been increased.

Address the Secretary of Agriculture, Washington, D. C., for a free copy of Circular No. 138.

A Too Regular Apiary.—Referring to the picture of an apiary in which all the hives seem to be placed at regular distances apart, with no trees or other objects in the way, J. E. Crane says in Gleanings in Bee Culture:

> That picture of a California apiary looks good on paper. We have one symmetrically arranged in a similar way; but what a vexation it has been to me the past season it would be hard to tell. I made a large number of new swarms with laying queens; but I found it very difficult to get these young queens fertilized; and when I came to look over the yard for winter I found 10 or 12 queenless colonies, while my other yards would not average over 2 to the same number of colonies.

Poisoning Ants. — Bulletin No. 207, from Berkeley, Cal., contains detailed instruction for dealing with the Argentine ant. The best remedy proved to be 1 to 2 parts of arsenic in 800 parts of syrup. As the remedy is equally effective against other kinds of ants, it is here given in detail:

> We obtained by far the best results by the use of a very weak solution of arsenic and syrup. Most of the commercial ant poisons commonly known as ant pastes consist of arsenic and syrup, but are made very strong in arsenic. This kills the foraging ants almost immediately. We found by reducing the arsenic to between ¼ and ⅛ of one percent they would take large quantities of the material to their nests and feed it to the young, and the whole nest would be killed by a slow poisoning.
>
> The most convenient way of exposing the poison to the ants is to use a large jar with a perforated cover, and within it place a sponge saturated with the arsenic solution. The ants will enter through the perforations in the cover, fill themselves with the arsenic solution, and carry it to their nests. The sponge will hold enough poison to reuqire 2 or 3 weeks to empty it, and before that time the ants will almost entirely disappear.
>
> The number of jars to use will depend upon the abundance of ants. In the worst cases half a dozen jars will serve for an ordinary private house and lot; and if the ants are not very bad one jar may be enough. In such cases it is well to place it in the pantry or kitchen.
>
> The same remedy can be used for all the native species of ants, and will be more effective against them.

Mr. Anderson (J. L.) 75 Years Young.—The weekly paper of Harvard, Ill., says:

> "J. L. Anderson, of Lawrence, spent his 75th birthday, April 12—the 50th anniversary of the firing on Fort Sumter—in carrying out of the cellar 42 of his 100 colonies of bees."

Long may he wave!

"**Advanced Bee-Culture.**"—A new edition of this book, by W. Z. Hutchinson, is just off the press. We have a copy of it in our hands, and can say that it is indeed a "thing of beauty." It is not only this, but it is one of the most practical and up-to-date books for the specialist bee-keeper ever written. Its 200 pages touch on nearly 500 subjects pertinent to modern bee-keeping, and all are discussed authoritatively. Its many fine illustrations are unusually clear in every detail. The book is bound in attractive and substantial cloth, with a clover design in natural colors on its cover. All together it is a volume whose appearance and unquestionable worth justly entitles it to a place in the library of every bee-keeper. No more important work on this fascinating subject has appeared. It is mailed for only $1.00, or with the American Bee Journal one year—both for $1.80. All orders should be sent to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

Pearce Method of Bee-Keeping

This is an illustrated pamphlet 6x8⅓ inches, "explaining the keeping of bees successfully in upper rooms, house attics or lofts, whereby any one either in city or country is enabled with only a small expenditure of labor to get a good supply of honey without coming in contact with the bees, and without having the bees swarm out and leave, or being troubled from stings, as you work on one side of the wall and the bees on the other. This method also tells the commercial bee-keeper how he can divide his bees when he wishes to, instead of waiting and watching for them to swarm. It can all be done on the same day, or days if more than one apiary, as the time required for this operation is merely nominal, no swarms issue and go away. These methods are fully explained in this book, and how to care for the bees on the Pearce plan."

We mail this pamphlet for 50 cents, or club it with the American Bee Journal one year—both for $1.10. Send all orders to the American Bee Journal, 146 W. Superior St., Chicago, Ill.

Worth Many Times Its Price.

To one who takes an interest in honey-bees, the American Bee Journal is worth its price many times over.

Tacoma, Wash. P. A. Norman.

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

"Bachelor Girls" and Bee-Keeping

Three of us bachelor girls—or old maids, if you prefer that title—want to make a specialty of the bee-keeping business, and want to go to Arkansas, somewhere in the Ozark region, where we can combine the fruit-business with bees. Now, if you don't mind advising us as to the best locality for bees, and any other pointers that people need who have had no experience whatever, but with love of outdoor life and work, we shall esteem it a great favor that we may perhaps some time return by passing it on to those in like need. If you do not want to bother with us, just toss this in the fire, but we very much want to hear from you.

Chicago, Ill. (Miss) Etta Thrapp.

If, in asking as to the best localities for bees, you mean that you want to know in what county and near what town to locate, you will be disappointed as to getting any help, for this is a pretty big country, and very little can be known by one person about the best spots to keep bees. It is certain, however, that in Arkansas there are those who keep bees, and in a general way something may be said as to what constitutes a good location.

The main thing to look out for is the matter of pasturage. As you mean to take up the fruit-business, you will have one important item, for although there is generally no surplus honey gotten from fruit-bloom, it plays a very important part in yielding honey to feed a large amount of brood, and this brood makes the bees that harvest the surplus later on. Without knowing anything about the resources of Arkansas, it may be well to say that where white clover is abundant, or basswood, or buckwheat, in places farther north and east, there may be good hope for success, and it may be the same way in Arkansas, although some other honey-plant may be of still more importance there, as cotton. Where two or more principal honey-plants abound, of course success will be better than with only one.

Now it will be a very ungracious thing to throw even a few drops of cold water upon your bright hopes, but do you dear girls know what you are about? If you know nothing about fruit-growing (and confessedly you have no practical knowledge of bee-keeping), you may find the actual facts very different from the things you read about. Please don't for a minute think of going into bee-keeping unless you are prepared to go without any profit from the business for at least 2 or 3 years. If you could start in right where you are with 2 or 3 colonies of bees, and learn something about them, after a year or two you would be able to know whether it would be wise to launch out on a larger scale. Dr. C. C. Miller, who is considered a successful bee-keeper, tells in his book, "Forty Years Among the Bees," that after being a bee-keeper 11 years he had only 2 colonies! So please don't plunge.

We will be glad to have you tell us in this department what you are doing.

Reciprocity and the Canadian Honey-Trade

Miss Ethel Robson, Conductor of the "Woman's Department" in the Canadian Bee Journal, is evidently allowed a free hand in her domain. The editor says so, and proof is not lacking in her initial number that it is so. On the much discussed subject of reciprocity the editor says:

> "We have been taken somewhat severely to task by several correspondents for our attitude regarding the proposed removal of the import duty on honey. We can merely explain that we were taught many years ago to regard every man as our brother, whether he be white, black, red or yellow; and as a natural consequence we have come to believe in free and unrestricted trade in all articles and commodities that make for the well-being of the human race. With us, it is a question, not of expediency, but of faith."

On the other hand, Miss Robson says:

> "The proposed reciprocity treaty is the one question in Canadian politics which has gotten beyond the range of mere party lines, and Canadians are discussing it with more national feeling than any other question within the memory of a good many of us..... The writer has taken the pains to find out the opinion of many of our leading bee-keepers—men who have the widest knowledge of marketing conditions—and they are unanimous in the expression of the opinion that the honey-trade in this country has received a severe and unnecessary blow."

Proceeding with a well-argued statement of the case, Miss Robson says among other things:

> "It may be argued that we have no right to deny the poor man the privilege of buying in a cheaper market; it is hardly to be supposed that bee-keepers go into business from more philanthropic motives than other men. But granted so, the reduction in the retail price by the removal of the duty will hardly be sufficient to make a difference of more than a dollar or two to even the largest consumer, while the reduction of one or two cents makes a big difference in a man's whole crop."

It may not be prudent to interfere in an affair between a man and a woman, as in this case, but one can not help thinking that the little difference of a cent a gallon on kerosene makes no great burden on the poor man, while it helps greatly to fill the purse of one John D. Rockefeller, and yet there are some who think it better that the thousands should have the benefit of a few cents each than that a larger benefit should accrue to that same John D. So it is just possible that it might be thought better that the many should have the benefit of a few cents each in the matter of honey-supply than that the few bee-keepers should each have a larger benefit.

Pronouncing Words from Foreign Languages.

Just a word or two to "New York" (page 53): In speaking of using proper and improper terms, he (or she) advises one to say, "It-alians" instead of "I-talians." One is just as bad as as the other, so why make the change that way? Why not say, "E-talians," and have it right? Italy, (pronounced "E-taly") is an Italian name and the letter "i" is pronounced as we pronounce "e"; just as in Spanish, and other languages, too.

The Americans have nearly always taken up some foreign name, word or saying, and spelled them with the same letters, but given a pronunciation to suit themselves, as, for example, Flori-da for Flo-retha; Kai-yote for Coy-ote; *La*no for "Ya-no," when trying to pronounce Llano; and a score or more too numerous to mention.

Eola, Tex. (Mrs.) M. E. Pruitt.

The matter of pronouncing correctly words from other languages is not the easiest thing in the world to handle. It would simplify it immensely if we could have fonetic spelling. Some words are imported from other languages, spelling and pronunciation, without change. Others undergo more or less change, and we must refer to an English dictionary to know what is right, rather than to refer to a dictionary of the foreign language. Whatever may be the sound of the first letter in the word "Italian" in any foreign language, if our esteemed correspondent will pardon the saying of it, in the English dictionary it has the same sound as that of the first letter in the word "it." After all, the difference between long e and short i is one not so much of kind as of length. Say "bit" very slowly, and "beet" very rapidly, and see how much difference there is between the two words.

Some Tested Honey-Recipes

Dear Miss Wilson:—I come to bring you some recipes which contain extracted honey, which I have not seen published in the journals:

Paste for Singing Birds.—Blanched sweet almonds, ½ lb.; pea-meal, 3 lbs.; butter, 4½ ounces; yolks of 2 eggs; 10 grs. of powdered saffron, and sufficient extracted honey to make a paste. Mix all and force through a sieve or fine colander. Make into 20-gr. lozenges, and give one once a week.

For Bronchial Cough (in animals such as cows, horses, dogs).—Powdered squills, 1 oz.; Dover's powder, 4 drams; extract of belladonna, 3 drams; sufficient extracted honey to make a paste. Give night and morning by smearing a piece ½ size of an ordinary walnut on the tongue or molar teeth. Use, in addition, ½ ounce of bicarbonate of potash in the drinking water.

Tartared Teeth.—Mix thoroughly ½ ounce of muriatic acid, 1 ounce of extracted honey, ½ ounce of water. Wet a tooth-brush well and brush the teeth briskly, and then rinse the mouth and teeth thoroughly several times so that the good teeth be not affected with the acid, and use *warm* water.

Honey Balsam.—Mix, by gentle heat, 4 ounces of extracted honey and 1 ounce of glycerine. Then dissolve 3 drams of citric acid in 1 ounce of alcohol, add 6 drops of the essence of ambergris. Then add to the honey and glycerine when cold; and stir until well mixed.

Flexible Glue.—Equal parts of glue and extracted honey. Mix well and use hot. Of course, the glue must be soaked in water 24 hours; all the water poured off, and the glue melted in a glue-pot, and then the honey added. It dries very quickly, and when dry is elastic and valuable for many purposes on this account.

For Chapped or Rough Hands.—One ounce honey, 1 ounce glycerince, 4 ounces of ground barley; the white of an egg. Shake well, and apply at night.

Eola, Tex. (Mrs.) M. E. Pruitt.

Pennsylvania State Meeting.—The summer meeting of the Pennsylvania State Bee-Keepers' Association will be held at Reynoldsville, Pa., July 11 and 12, 1911. The place is not far distant from Pittsburg. All bee-keepers who can attend are invited.

CANADIAN BEEDOM~

Conducted by J. L. Byer, Mt. Joy, Ontario.

Bee-Keeping at the Ontario Agricultural College

The Short Course in Apiculture at the Ontario Agricultural College, held from May 1-6, 1911, at Guelph, Ont., was the first Short Course of its kind ever held at the Ontario Agricultural College, and it was a success.

In all, 43 bee-enthusiasts were in attendance, including 8 regular apicultural students of MacDonald Hall, and 6 other ladies from different parts of the Province. The counties represented were the following: Bruce, Carleton, Dufferin, Elgin, Haldimand, Kent, Lambton, Leeds, Lincoln, Middlesex, Perth, Stormont, Welland, Wellington, Wentworth, York, and the Province of Quebec. Nine of the Provincial Apiary Instructors were present, also Dr. G. Gordon Hewitt, Ph. D., Dominion Entomologist, and his assistant apiarist, Mr. Beaulne, of the Central Experimental Farm, Ottawa.

The program consisted of forenoons devoted to lectures, the afternoons to demonstration and practice, and the 3 evening lectures of a more popular nature, copiously illustrated with lantern views. The weather being cold most of the week, the practical work took the form of demonstrations in the Apicultural Laboratory, doing such work as rendering wax from combs, nailing up hives, nailing and wiring frames, and putting in comb foundation. A rather complete display of different kinds of combs which bees build, also of the machinery used in the production of honey and beeswax, attracted much attention.

By Thursday it was warm enough to visit the College Apiary. The hives were still in the boxes where they had been packed with planer shavings for the winter. These boxes were taken off by members of the class and stacked; the shavings were removed, and the class was given a drill on handling combs, and looking for different conditions of the internal economy of the hive. Friday afternoon was spent in a similar way, giving more attention to the symptoms of American foul brood. Saturday afternoon local apiaries were visited, and some members of the class became discoverers of real causes of disease, much to their own satisfaction.

The lecture work was divided largely between Mr. Morley Pettit, the Provincial Apiarist, and Dr. E. F. Phillips, Ph. D., In Charge of Apiculture for the United States. Mr. Pettit handled the more practical problems of apiculture, and Dr. Phillips discussed the question of general behavior, anatomy, and diseases of bees. Prof. Edwards introduced the subject of disease by a general discussion of the nature of bacteria. Prof. Harcourt demonstrated simple chemical tests for the purity of honey. Prof. C. A. Zavitz explained the work of the Ontario Agricultural and Experimental Union, and suggested ways in which it could serve the bee-keepers of Ontario in addition to the work already done. Mr. LeDrew explained the principles of co-operation which might be applied to the business of honey-production.

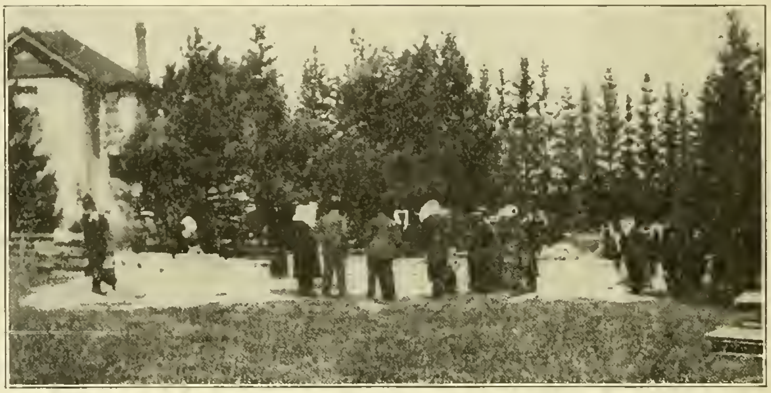


Fig. 3.—Three Groups of Hives Unpacked.

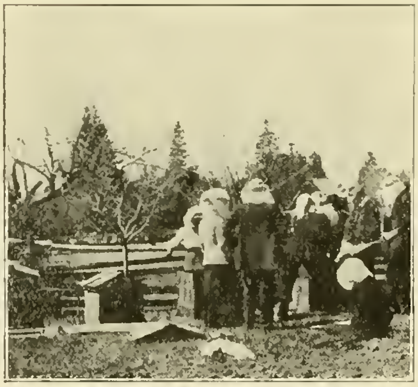


Fig. 2.—Looking for Foul Brood.

The evening lecture by Dr. Phillips, on "The Behavior of the Bee," and on "The Hawaiian Islands and their Bee-Keeping Industry," were largely attended by members of the Normal Teachers' Class and the students of the O. A. C. and MacDonald Hall.

At the Friday night lecture President G. C. Creelman, B. S. A., LL. D., occupied the chair in his usual genial manner.

There were many expressions of appreciation from the members of the class as they dispersed to their homes, on Saturday, May 6th.

The 3 illustrations herewith will help to make somewhat clearer certain portions of the test.

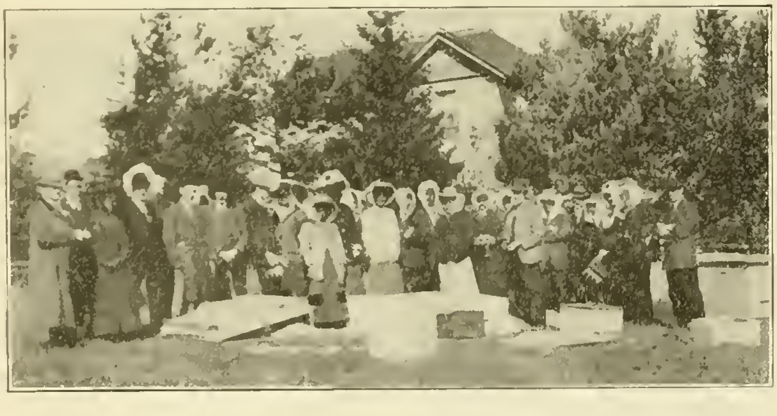


Fig. 1.—Taking Winter Packing Off the Hives.

Preparing a Bee-Cellar or Bee-Cave

Touching the question of cellar wintering, let me tell of something that came under my notice but a few days ago. I happened to be visiting a bee-keeper living 200 miles from my home, and I am bound to say that after having seen many hundreds of colonies in different kinds of cellars and repositories in different parts of the country, the method used by the man in question gives the most perfect success of anything that has come under my notice in the way of wintering bees indoors.

The apiary is located on a flat limestone rock, very little soil showing at any place. In digging the cellars, or "caves," as my friend calls them, he simply quarried out the limestone about 18 inches deep and piled the pieces of rock along the outsides. Pieces of split cedar were stood on end all around the enclosure, and the same material was used to form the gables of the roof. Along the ridge of the roof a full-length piece of cedar about 10 inches thick was supported from the center of the floor by posts of the same material. Now over all the roof and against the sides earth was put to the depth of 18 inches over the roof, and probably 3 feet against the sides and ends.

In the one end of course a door frame was placed, and in this frame the inside door opened to cellar, while the storm door, about 2 feet farther out, opens outward. For ventilation, wooden pipes about 4 inches square go up through the roof, and have an elbow at the top to prevent rain going in. If I remember correctly there were two in each end of the larger cave. This cave is 10 feet wide and 20 long, about 5 feet high at the sides, and 6 feet at the ridge of the roof. Two others are of smaller dimensions, but built exactly as the larger one described. So much for the simple construction, and now for results.

Bees have been wintered in these caves for 25 years, and always successfully with the exception of 4 years ago when so many bees perished with honey-dew in the hives. The past winter 100 colonies were wintered in the larger cave, and 80 in each of the other two. They had no flight after the last week in October, and were put into the cellar about Nov. 15th. At the date of my visit (April 18) all but 40 colonies had been carried out, and all alive but 3 colonies that had been queenless in the fall, and had combs full of honey. The hives were all so very heavy that unless some of it is taken away the queens will be cramped for room—in fact, after lifting dozens of colonies I came to the conclusion that they would average 40 pounds of honey at present—hives being Langstroth length, 8-frame width, and but 2 inches deeper than the Langstroth frame. This is stated to show the extremely small quantity of stores consumed in the long winter's confinement.

The hives are placed in the cellar with the bottom-boards removed. On top of a row 2-inch strips are laid, and about that thickness of leaves are above the quilts to absorb dampness, the owner told me. On top of these strips another row is placed in the same manner. The hives were 3 deep at the sides of the cave, and 4 deep in the center rows.

I have stated that 40 colonies were still in the cellar at the time of my visit, and my friend told me to come in and see how they were placed. After stepping inside I went to close the door behind us at once, as at the late date I expected the bees would be uneasy, especially so because only the day before some 40 colonies had been carried out of the place. The door faced the west, and as it was about 2 o'clock in the afternoon, the bright sun shone directly into the cave, the entrance to the same being practically on the level. My friend seemed surprised at my ideas as to the bees being uneasy, and left the door wide open. We went inside and sat down, and listened, but not a sound could we hear, even if the owner of the bees did sit contentedly on top of one of the rows of hives, thus jarring them some, and even if the temperature outside was about 60, with thousands of bees flying around, and many of them coming in the open door.

I lifted up the quilts of several of the colonies, and down below the honey could be seen the clusters. On looking under the hives they were more plainly seen, but not a single bee offered to fly out, although we stayed in the cellar for at least 10 minutes.

Later on I went into the cellar again, and closed the door to see if they had awakened any more, but not a sound could I hear. This is without doubt successful wintering in the strictest sense of the word; and, as to temperature, my friend said he had never taken a thermometer in the cellar. "What's the use," he said, "as long as they winter well?"

Needless to say, I regard this visit as an educational one, and no doubt many bee-keepers situated where an orthodox cellar is an impossibility, could well profit by the experience of my friend. I am told that there are quite a few bee-keepers who winter bees in the same way in the section I have been speaking of, but here in central Ontario I have never met with a repository for bees constructed on the principle described. If called upon to construct any place for inside wintering of bees, certainly, after what I have seen so recently, it would go a long way in helping me to decide on the type of cellar I would construct.

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

A Minimum of Swarming

While many bee-keepers have experienced a great deal of swarming this spring, on account of most favorable conditions conducive to the real, old-time swarming fever, I did not have this trouble to any great extent. There is a reason for this, in my mind at least. My swarming for the last 10 years has been cut down to practically 2 percent, on the average. During several years I have not had any, or very few, swarms in most of the yards, and comparatively few during even the more favorable seasons. This year I have had a most favorable spring for swarming, but by watching the strongest colonies every week or 10 days, and by carrying out certain manipulations that I have practiced and modified from time to time for the last 10 years or more, I have cut down the number of swarms even this year to a low percent.

I may attribute my success to the fact that I manipulate my colonies in such a way as to keep the bees in as comfortable a condition as possible at all times, especially in the spring of the year, and most especially during that period of time before the colonies get into the swarming desire at all. First of all, I think a large 10-frame is the most essential factor toward preventing swarming, and for this reason I long ago adopted not only the 10-frame hive that could be enlarged at will, and to the needs of the colonies at all times. Although I have had the best results by the use of the shallow or divisible brood-chamber hives, I also have succeeded very well by using the regular 10-frame Langstroth hives in connection with as many extra shallow hive-bodies and supers as becomes necessary at any time. Thus I still have the principle of the divisible brood-chamber hive, however, wherein lies the secret of most of my success in at least decreasing the number of swarms, if not preventing them altogether.

Giving sufficient extra storage-room above the brood-nest very early in the spring, into which the colony can spread as needed, and thus never becoming crowded in the brood-chamber, is the one first step that I look after in the question of swarm-prevention. Next to this comes the important matter of manipulating the *brood-nest* in such a matter that there will never at any time during the entire swarming season be a congested condition of the brood-nest itself. Prevent this in addition to giving sufficient room as stated, and half of the battle is won. All that is necessary from now on is to keep one's eye, as it were, on the question of having enough room for the colony so the bees feel comfortable and not crowded, and that there is no congestion of the brood-nest, thus keeping the queen and the rest of the colony comfortably busy.

Where large numbers of colonies are kept, and these in many apiaries, some short-cut methods must be applied as a natural result, by which the above work can be done in a wholesale way. While it becomes necessary to handle and re-arrange combs in the Langstoth-size hive-bodies when these are in use, we gain over these by handling whole shallow stories with the divisible brood-chamber hives. My manipulations consist chiefly in "swapping" or interchanging the shallow stories of the brood-chamber proper. This latter consists in the spring of 3 of the shallow 10-frame 5¾-inch stories. At first the brood may be only in the two lower ones, but later the queen also uses the third or upper story. Thus I get lots of brood and rousing colonies for the honey-flow, and it is only another reason why I encourage the queen to go above.

Thus all 3 stories become more or

less filled with brood, the central ones becoming the most congested. As soon as this is almost reached, the congestion is broken up by interchanging the stories in such a way that the brood-nest is again open, and room for the queen is made at the same time. In remodeling the brood-nest and rearranging the honey-stores, etc., an impetus is given that has a stimulating effect upon the colony, and gives excellent results. By thus exchanging the different stories in various ways to suit the immediate needs of each and every colony every week or 10 days, for the several weeks during which the swarming season is on, I have been enabled to manage a goodly number of colonies in many apiaries scattered far and wide.

It is an established fact here in the South, that the bees will stop all swarming as soon as the main honey-flow begins, when they seem to resort to only one thing—that of gathering in all the stores they can possibly get. My secret, therefore, is to abate swarming until this honey-flow comes, when the danger-point is past. However, this spring we did not have an early flow, and the coming season was consequently prolonged for a considerable length of time. But in spite of this fact, the number of swarms was kept down to a small percent with my methods of manipulations, while others complained of too many swarms.

Some Swarming Troubles—Robber-Bees

One of the difficult things we have to contend with in this locality is bees swarming when little or nothing is being gathered by them. What I mean by this is, not enough honey is being gathered daily to supply the demands of the colony, and we have to keep a constant lookout to see that some colonies do not run entirely without stores, and destroy their brood. Of course, we can feed or give frames of honey, but to do either means swarming later, sure. If we could always have a surplus of ready-drawn combs, we could overcome this by tiering up and giving plenty of room.

It is here like it is in California and other warm climates, if bees have plenty of stores in the hives, or are given a liberal supply of honey, they will swarm almost as badly as if a light flow of honey was on. (Bees seldom swarm here when a heavy honey-flow is on, provided plenty of pollen is to be had, which is usually the case.)

It sometimes happens that we want some increase, and we are short on combs, and to hive swarms on foundation without a frame of honey to help them would mean almost or quite starvation, and the comb foundation badly gnawed around the wires—perhaps ruined. How to overcome this is quite a puzzle to me. If I had plenty of combs, as stated, I could easily overcome this. Such, however, is not the case, and I have more or less loss each season from this source. If I had the bees all at home I could partly overcome it by feeding; having them scattered in 3 or 4 yards, several miles from home, it is not an easy thing to manage, and I almost always have a honey-dearth at the main swarming season here.

No doubt but there are few who have the same amount of trouble along this line as I have. Any suggestions from practical bee-keepers on this subject would be appreciated.

We are in the height of the swarming season at this writing, and as I left the bees an over-supply of stores last fall, I expect an over-supply of swarms. Plenty of stores here in the spring means much swarming, as a rule.

FOOLING THE ROBBER-BEES.

A good way to stop robbing is to watch at the entrance of the colony being robbed, and line the bees as they come out of the hive, to the colony doing the mischief. It is usually just one colony doing most of the robbing, although the average novice might think, from the uproar they were causing, that at least a dozen had a "finger in the pie." After you have the thieves located, quietly pick up the colony being robbed, and move it to the stand of the one doing the robbing, and put the robbers on the place they occupied; or, in other words, exchange places with them. Any one who has never tried this has no idea how quickly they will quiet down, and all hands go to work as if nothing out of the common order of things had been going on.

When I first read of this plan of stopping robbing, my fears were for one or both queens being balled, but after having tried it a number of times, with not a single queen being molested, I have no further fears along that line. It will not only stop robbing, but it is almost always a real benefit to the one being robbed, at least, for it is almost always a weak colony that is robbed, and a strong one doing the robbing. So the exchange strengthens the weak one, and does the strong one no harm.

I would use no other plan now to stop robbing. Try it and report the results through the American Bee Journal.

Rescue, Tex., April 10. L. B. SMITH.

Starters or Full Sheets of Foundation

It is a pity that some people begin to save at the wrong end. Many bee-keepers are addicted to this in the use of comb foundation. To try to save on foundation by using only starters instead of full sheets means a far greater loss in results obtained than is at first expected. Too few stop to figure this out, and look only upon the saving in the first cost. My experience has taught me that a saving of 20 cents worth of foundation on each super will mean a loss of $1.10 worth of honey. That is to say, supers given with full sheets of foundation will be filled with that much more honey in a certain length of time over those in which only starters were used.

This difference I discovered accidentally several years ago. In apiaries where supers were given, part of which were filled with full sheets and part with starters only, the former were almost completed in 8 days' time, while the latter were only half full. So great was this difference that I noticed it immediately, and further examination of the entire lot of supers thus used proved to me conclusively that it did not pay me to use the starters.

On account of a short supply of comb foundation, caused by a delayed shipment, and with a good honey-flow on at the time, it was necessary to use only one-third sheets to make the supply on hand last. The loss due to the supers filled with the starters amounted to $200 in 8 days.

It pays, and pays big, to use full sheets of comb foundation at all times.

CONTRIBUTED ARTICLES

Requeening and Queen-Rearing

BY F. GREINER.

The bee-keepers of our land are becoming more and more convinced that they must look after the age of their queens more than they have. Some colonies renew their mothers timely without any interference of the keeper. If we could depend upon this we need not trouble ourselves at all. In Switzerland, good breeding stock must supersede timely. This must be a fixed quality, or the stock is rejected. Since foul brood has made such inroads upon us, many bee-keepers have observed that colonies with young queens are more immune, or disease-resisting, than such as are headed by old queens. This being true, we might decide on renewing all our queens every season, but if we did that we would never have any reliable breeding-queens, as none could be tested in so short a time.

Taking the above view, it would be better at least to calculate on keeping each otherwise good queen two years; select out of those such as outstripped the rest, and again keep them for a third season. Following this policy we would probably have but few failing queens. The losses from failing queens are often very great, and we certainly ought to guard against this thing all we can.

Mr. Taylor, at a bee-keepers' institute, said a few years ago, "The remedy is, '*Keep more bees.*'" Like the former, Doolittle advises to allow the bees to renew their queens when they think best; this would be the "easy" way but would need more capital; and but few of us would like to see our capital lie idle. So it will undoubtedly be to our advantage to have something to say about renewing the queens of our colonies kept for honey-production.

In localities furnishing no more surplus honey after the flow from clover and basswood is over, no better time can be chosen to replace old queens than just at that time. It is not necessary to buy queens for this purpose. In fact, the better way is to rear them yourself. In order to preserve the high standard of the honey-bees, the queens should be reared under most favorable conditions. These conditions prevail during the honey-flow, and at no other time. It is possible to help out by feeding, and thus producing, artificially, favorable conditions, but the honey-producer might better depend upon Nature.

I am also not fully satisfied that the standard of our bees can be maintained if we constantly rear queens by transferring larvæ into artificial queen-cells. I greatly hope it is, because it does enable us to have ripe queen-cells without much trouble at the right time. I have reared queens from natural cells; I have used natural cells, removing the original larvæ and replacing them by selected ones; I have used artificial cells primed and unprimed; but I have not found any difference in the result. We must, however, not forget that our honey-bee has been bred for thousands of years by the natural process, and all her qualities have been so well fixed that an occasional blunder on our side would not crop out at once. But should we continue rearing queens by transferring larvæ for years and years, rearing generation after generation in this fashion, we might come to grief—our stock of bees might deteriorate.

When a colony loses its queen and there is young brood in the hive, the bees at once set about it to rear a new queen from it. Such reared queen is no better than one we may induce the bees to rear from a transferred larva, and we may thus excuse our transfer method; but such a thing is an exception. It may not occur once in 25 years in a hive. In order that we may be sure that no deterioration can take place, the young queen ought to be treated like a princess from the very beginning.

We will come the nearest to Nature by supplying only eggs from which to rear the queens. We are not absolutely sure then, but it is the best we can do, as we can not influence the queen to lay eggs in artificially-prepared queen-cells. Mr. H. L. Case, in 1909, made known to us a plan by which it is a simple matter to have a great many queen-cells built out from eggs. His plan was, first to insert a nice comb in the breeding colony. After 3 days, or before any larvæ have broken the shells, remove the comb, which is by that time full of eggs, and make incisions with the row of cells down to the midrib on one side of the comb only, but clear across. With a narrow chisel remove every other strip or row of cells. Now destroy every other cell in the rows left intact, and give the comb flatwise propped up over the brood-chamber, to a queenless and broodless colony. Mr. Case has had 75 fine cells built out in this fashion on one comb. Dr. Phillips advocated a similar plan at the State bee-keepers' meeting in Geneva, Dec. 12, 1910.

With such an amount of cells as the product of one colony, it is an easy matter to renew the queens in a lot of colonies. The only trouble would be to catch the old queens. Our foul-brood inspectors employ a sieve; others have done so. With black colonies in the fall of the year this is the quickest way. Then, after the colonies have been queenless for a day or two, the ripe cells are given, one or two to each.

Just before the buckwheat honey season closes is also a good time to renew queens without making a sacrifice. Many authorities would have us think that it does pay to renew queens in this fashion early in the spring or during fruit-bloom. This may be so, but if there are any queens not extra-prolific in the yard, it will surely pay with them. In fact, I have noticed that while there occurs a loss, no eggs being laid for about 12 days when a queen is removed and a ripe cell substituted, yet when that young queen commences to lay, she usually soon makes up that loss, even when the young queen was still doing a good business. A young queen, thus reared, is also not apt to lead out a swarm that season—from the standpoint of the comb-honey producer, certainly no small advantage.

Naples, N. Y.

Giving Natural Swarms Part Empty Combs

BY G. M. DOOLITTLE.

A correspondent writes that he is a subscriber to the American Bee Journal, and wishes me to tell through its columns how it would answer to hive his swarms as they come, in hives having 4 frames of empty comb and 6 frames having a starter of worker-comb in them, enough so the bees will build their combs true in the frames. He says he has empty combs enough so that he can furnish each new swarm with only 4 combs, and that the bees must build the rest of those needed themselves, as he does not feel able to buy comb foundation to fill the frames that do not have comb in them.

First, allow me to say that I believe there are times when it can be made to pay very largely to fill the frames with worker-comb foundation; and at other times I am sure that the bees can build combs at a profit above buying the foundation. And if he must hive his swarms as he proposes, that is just the time it will pay any one to fill the empty frames with foundation. The only time when it will pay to hive swarms upon frames having only starters in them is, when honey is coming in slowly, or with small swarms; if the whole of the frames a hive contains are given the swarm at time of hiving. In either of these conditions the bees will fill the frames mostly with worker-comb. But with large swarms and a heavy yield of honey, the combs which are built would be quite a share of them drone-comb, which would be to the detriment of a good yield of honey ever afterward, unless the bee-keeper went through the labor and trouble of cutting out this drone-comb and fitting worker-comb in its place. However, if the sections are filled with empty comb, or with thin comb foundation, and the hive contracted with dummies so that there are only 5 or 6 frames in the brood-chamber, then even a large swarm with a good flow of honey, will build mostly worker-comb, as, in this case, there will be ample room in the sections for the storing of the nectar, while the bees build the worker-size of cells for the eggs of the queen.

"But what is there against working on the plan as given by the correspondent?" I think I hear some one ask. As I consider it, there are three things against it: The first of which is, that the bees would be likely to fill these combs with honey almost immediately, if the swarm was large and the flow of nectar good, thus giving 4 combs solid with honey, instead of having that much in the sections, thus thwarting the purpose of contracting hives, as has been just mentioned, which is, to secure the first and best quality of honey in the sections, and also to entice the bees to work in the sections before they commence to store in the brood-chamber to any extent. These empty combs can never take the place of dummies. With the dummies, there is no place to store anything in the brood-chamber until comb is built, and as the combs or foundation which will soon be drawn out in the sections will give empty cells before there are any in the brood-nest, this first honey goes into the sections, and by the time cells are built in the frames the queen has regained her fertility, so that these brood-frames are all filled with worker-cells and brood, just as we wish them.

Then, again, the correspondent's plan would be rather a method of expansion, for the bees would have to spread out over these combs, if they were placed at each side of the hive to keep things properly warm, so few bees would enter the sections, while the dummies simply take up space, the bees not having any desire to hang around the outside of them. Then, if the season was good for two weeks or so, and the swarm did not dwindle in numbers too rapidly, the bees crowding the queen down to little room for brood, would cause swarming, as often happens in this locality, just at a time when the best work is generally being done in the sections. Of course, these swarms could be returned and the queen-cells cut off, but this makes a lot of extra work, and generally a mixing of swarms, which is a nuisance to any apiarist. Then, as a rule, such colonies are more persistent in continued swarming to the end of the flow, than is an old colony; and this persistency always destroys the prospect of a good yield of section honey. I have often had swarms go to work with a will under similar circumstances, working till the sections were about two-thirds completed, and then, just as I was priding myself on having a large lot of beautiful honey from such a swarm, out they would come, and be so persistent in swarming that few of the sections would be completed, while what were, were so travel-stained and so unevenly capped that their selling price was very much injured.

But the worst feature of all, when giving a colony part empty combs and part empty frames, lies in the persistency of these swarms building drone-comb in the empty frames. The *why* of this is hard to understand; but an experience covering more than 40 years has proven to me that bees can not be depended upon to build any worker-comb during the first week after being hived, where one-fourth or such a matter of the hive contains empty comb, and the swarm is one having a laying queen. With a large swarm having a virgin queen the case is different, such as a swarm coming from a colony which has lost its old mother at about the swarming season, or with very large second swarms. It takes from 3 to 6 days for such a queen to become fertile and commence to lay, after the swarm is hived, and during this time the bees have filled the empty combs given with honey, so that new comb must be built at a time when this young and vigorous queen demands only worker-cells, as she has no such desire to lay in drone-comb as has a queen a year or more old. Then, when such a queen begins to lay, she crowds the cells with eggs as fast as built, thus keeping the bees building worker-combs to an extent greater than is usually the case.

But, as it is a rare thing that many swarms issue as the first one of the season with a virgin queen, and as scarcely a person in this 20th century has any use for second or after-swarms, my advice to all is (and has been ever since comb foundation came into use): Use only starters in the frames when hiving swarms, or else fill all frames with foundation, or give all frames filled with comb. And after years of practice along this line, I still believe this to be good advice. Frames filled with foundation, mixed with those containing comb, do much better than frames having only starters when used with combs; but even this is objectionable on account of the bees lengthening the cells on the combs given, while they are working the foundation, so that the combs along the top-bars of the frames will be very thick when completed, while those with foundation are correspondingly thin.

Borodino, N. Y.

Local Shipments of Comb Honey

Read at the Colorado Bee-Keepers' Convention

BY FRANK RAUCHFUSS.

Owing to an almost entire honey crop failure in Northern Colorado during the season of 1910, local shipments of comb honey from other sections of the State became necessary. Some of these shipments were made by express, but most of them by freight, as our experience in former years with express companies has been that it is simply a matter of paying higher charges for a poor service.

Having received many local shipments during the past fall, ranging in lots of 12 cases to several hundred cases, and in distance of shipment from 75 to 450 miles, we have had plenty of opportunity to experiment as to what is needed to make the shipping of small lots of comb honey during cool or cold weather a success, and will herewith give some of our observations:

While warm weather prevailed shipments came through in fairly good condition.

When cold nights came on, no shipment arrived in good condition when cases were shipped singly (glass always protected by thin boards), whether packed in single or double tier cases.

Honey in double-tier cases came through with much less breakage than that in single-tier cases.

Honey produced without bottom starters in the sections broke down more than with the bottom starters.

Single-tier cases and also double-tier cases crated together with lath (4 cases in a crate) came through in very bad condition; however, in explanation it may be stated that these came the longest distance, and were transferred twice in transit, and the damage most likely was done in the transferring by tumbling the crates around, as they have no projecting handles.

Single-tier cases with the new and much-praised sliding covers have proven a dismal failure, as the cases had to be tied with string in transit to keep them from falling apart.

Large printed cards with lengthy instructions to freight handlers proved of little or no value; evidently they were too long to be read.

The only lots that came through during cold weather *without damage* were those that were shipped in 8-case carriers, with straw or hay beneath the cases, and projecting handles at the ends of the crate. While these handles are of little value to carry the crates, they seem to prevent the placing of the crates on end in the cars, and prevent their being tumbled about.

As the damage in these local honey shipments not packed in carriers has been so frequent that we have come to the conclusion to notify our members that after this we shall not receive any local shipments of comb honey unless packed in carriers. Another advantage of the carriers is that the cases are protected, and arrive in clean condition.

The present rulings of the Western Classification do not make any distinction between comb honey shipped in single cases, glass protected, and comb honey shipped in 8-case carriers, which is manifestly a hardship to the producers, and the reason why the use of these carriers for shipments is not more general. I am, therefore, trying to enlist the support of large jobbers and shippers of comb honey within the territory of the Western Classification, to urge the Western Classification Committee to rule that comb honey in carriers with straw or hay beneath the cases shall go as second-class freight, for the reason that it will take less time to handle them, and the danger of damage is reduced to a minimum, thereby saving the railroads many damage claims. I hope that this move will find the support of this Association at its present session.

Denver, Colo.

Improved Bees and Properly-Bred Queens

BY HARRY LATHROP.

Much has been written of late about the large increase in honey-production that could be secured through improved races of bees and properly-bred queens. Bee-keepers have been advised to breed from those colonies that produced the exceptional crops. In the March Bee-Keepers' Review, Editor Hutchinson gives a reprint of Gravenhorst's article on honey-storing capabilities. Gravenhorst says this in one place:

> "By repeated examination and observation I have learned that there exists a certain condition under which a colony will gather the most honey, whether it be strong or weak. If this condition has not yet been reached, or if it has been passed, the storing of surplus will be neglected, or at least carried on only moderately."

Now, how about breeding from the colony that stores the most honey? The one that stores the most, according to Gravenhorst, will be the one that hits the opening of the honey-flow in just the right condition. Every observing bee-keeper will believe that Gravenhorst is about right, but the colony that happens to be in just the right condition may be of one particular strain or another, just as it happens. One year it may be a certain queen, and the next another. I have often had the bumper crop from some colony from which I did not wish to breed on account of something objectionable in the temper of the bees. Of course, I believe in trying to improve our stock, but I do not believe there is so much in superior strains as some would have us believe. I could never prove it in actual practice. Regardless of superior breeding, if you wish to get big results from a single colony, try this plan:

Buy a box-hive colony from some farmer who never saw a queen. Get one of those big, tall ones that went into winter with a strong force of bees and 50 or more pounds of honey. They will have fixed their brood-nest just to suit themselves. It will be warm inside, with plenty of stores right over and around the cluster. They will not feel the cold of winter even if wintered out-of-doors. Take this old box-hive colony home, and in the spring pry off the top and give them an upper story of nice worker-comb. When the queen has gone up, and these combs are partly filled with brood, take it on a day when the queen is upstairs, just about the time when the honey-flow is opening. Set the upper part off, remove the box-hive to one side, and place the regular hive-body that has the queen, on the stand. Give them surplus room and work the old box in such a way as to feed the hatching bees into the working colony. You can take it away after some days and give them a young queen, if you wish, or break it up entirely.

Of course, this plan can be used with any kind of hive—I just mentioned the box-hive because they have a way of wintering a strong force and of throwing off an enormous swarm about the right time for the honey crop; unless handled as indicated above.

One man proposes to go to great expense in order to provide his whole apiary with queens bred after the most approved fashion. I believe the result would be disappointing. Suppose he should have a couple of poor seasons following his accomplishment of requeening his apiary with the very best stock that human effort could secure. He would get no returns on his investment, and at the end of that time his stock would show up no better, probably, than any ordinary, well-conducted apiary.

When shall we know the truth about these things? and when shall theories become demonstrated facts? Many theories would be accepted as facts to-day if it were not for other facts that do not harmonize, forcing us at least to take middle ground in many instances.

Bridgeport, Wis.

No. 2.—Construction of the Cell on Comb Foundation

BY FOLOPPE FRERES.

The natural comb, in its entirety, is built by the bee by means of successive additions of wax, and if we except a few attachment cells, dug out of the first rudimentary deposit, the *modus operandi* of the worker will consist in placing and uniting the materials in regular order.

The cell, in these conditions, is therefore built in full from pieces, and the work accomplished by the insect may be compared to the building of a wall, or rather of a turret, in which each parcel of wax corresponds to the stone used by the mason. The comb is *built*, in the full sense of the word.

As for the comb erected out of foundation, it will be otherwise. It would, however, be proper for the bee simply to add to the rudiments of cells provided by man, with new deposits, but she will not do it, evidently thinking that it is possible for her to take better advantage of the raw material which is there in excess. Setting aside her habitual manner, she will have recourse to the process which we have formerly seen her employ, she will work in "the lump." (However, if the starter has been furnished too late, and the crop is on, and of short duration, the wax-sheet may be loaded with new wax which the bees then produce in large amount, and thanks to which the building will be the sooner completed.)

By dint of labor she will succeed in digging out and thinning the bottom and the coarse structure in such a way that the cell will soon emerge from the sheet, will become elongated, and will finally reach its full size without the need of additional wax, provided the sheet has been of sufficient thickness. It is then said that the foundation has been "stretched out"—a perhaps improper expression, but which gives an idea of the manner in which the work has been accomplished.

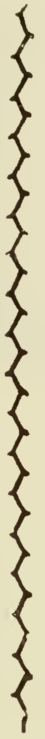
We ascertain thus, that not only the insect is able to discern the necessity of a different method of work, but also that it is able to obtain, by a process employed incidentally, a final result as perfect as, if not more perfect than, that reached by natural constructions.

We believe that we can not better give an idea of the difference between the foundation sheet just made, and that which has been shaped by the bees, than by reproducing two photographs of these sheets, taken in cross-section and made of equal size to facilitate comparison.

In Fig. 1 the sheet is exhibited such as it is used to place in the frame. In Fig. 2 we see a similar sheet in process of construction—on one side the thick artificial foundation, on the other the work of real fineness. This remarkable transformation has been accomplished within a few hours, almost under our eyes, but we are in the dark on many points as to the manner in which the bee proceeds with this fairy-like work.

Concerning the naturally-built comb, the observation hive has permitted our Masters to describe minutely, in spite of great difficulties, this marvelous work, in masterly pages not to be forgotten. Here, this direct observation could furnish but incomplete information, for the task of the worker is no longer accomplished on the rudiments of the cell, in a visible way, but at the bottom. To follow the characteristic motions of the wax-worker in these conditions, when her thorax is buried within the rudiment of wall of the cell, at a time when the entire frame is covered with the working throng, is practically impossible; barely can we see some changes permitting us to suppose, without really ascertaining the conditions.

We have thought that, since it is so impracticable to be informed by the action of the bees, perhaps it would be possible to follow the advancement of the comb from the comb itself. The labor of erecting the cells is never accomplished simultaneously; some cells near the center will be very nearly finished while others about the edges will be but begun. The different phases of progress are therefore registered in the comb itself.



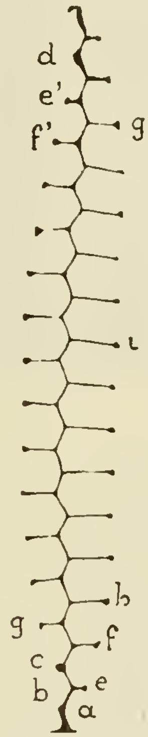


Fig. 1.—Cross-section of a sheet of foundation—natural size.
Fig. 2.—Cross-section of a sheet of foundation in process of construction—natural size.

On the other side, wax being an eminently plastic substance, and therefore retaining the most delicate imprints, will it not be logical to suppose that the cell must retain the evidence of the "tools"—if we may thus call them—which have served to do the work? We may therefore believe that a deeper examination will permit us to determine with comparative exactness some interesting particularities of the process of the cell.

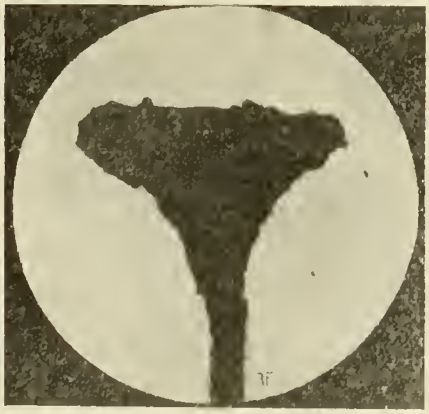


Fig. 3.—The lump at the outer edge of the cell, first stage—longitudinal section enlarged 35 diameters.

Fig. 2 will enable us to follow easily, in a general way, the sheet in its different conditions. This section of a comb built on *colored* wax will give us a neater cut, brought out better, on the plastic background which envelops it, than could be done with the lightest kind of wax; in addition, it will permit us to eliminate all cause of error brought by accretions, which would at once be indicated by a change of shade.

At its inferior extremity, in a, Fig. 2 (see May American Bee Journal), the sheet is not even shaped out, however the base of the corresponding cell b has already been subjected to a commencement of work, for the excess of beeswax has been pushed out upon the rudiment c, giving the latter an appreciable enlargement. If we try to ascertain how this change has been effected, we will only need to glance at d to become informed. The first half of the bottom of that cell is already finished, while the other half the wax has been pushed over progressively, starting from the center, the thinnest spot, going towards the rudiment which it covers. Little by little the midrib of the bottom will be brought to proper thickness, and the bulk of the wax, which appears in shape of wedge at d, will constitute the rudiment of the cell as we see it in c. The latter, very thick, as you may readily perceive, presents a projection of about a millimeter and a half, and its section is limited by perceptibly parallel edges.

At e and e, the projection shows better, and the appearance is again modified. Under labor similar to that already witnessed for the bases, the sides will also be thinned out, and the wax, pushed on in the direction of the outer edge of the cell, will there form a sort of swelling. The section of the rudiment will no longer have parallel edges, but will assume the shape of a small mushroom.

Upon the following cells f and f, one perceives the edges taken down to their normal thickness, while the little lump of wax still retains its triangular shape at g.

The bee, therefore, does not bring about the progress of the shaping of the cell by successive removals of wax from the sides, but constantly pushes back towards the edge all the unnecessary wax, retaining only the quantity necessary to insure strength of construction. The worker acts in such a manner that she does not need to return to the work already performed. We have often ascertained, also, that the queen, if short of room, will not hesitate to lay eggs in the rudimentary cells, for she has the certainty that the wax-workers will finish promptly their task without meddling with the larvæ.

As the cell enlarges, the lumps of wax diminish in size; in h, the triangular form lengthens out, to become ovoid in i, and if any of the cells are finished, we will see only a trace of enlargement at their extremity.

Fig. 3 represents one of the lumps at the time when the cell is shaped as in

g. One may notice in this silhouette how sharp are the angles of this pushed-over wax.

The Figs. 4 and 5 are also sectional photographs of the cells at different degrees of lengthening. In Fig. 4 the reserve of material loses its sharp angles, while in the last the amount of wax diminishing gradually gives the cut the appearance of a maul.

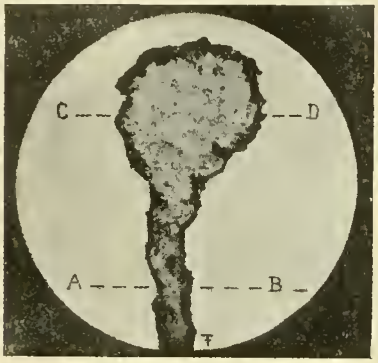


Fig. 4.—Lump on the edge of the cell—second stage—longitudinal section enlarged 35 diameters.

Although these micrographic views have been taken on cells of different lengths, one may notice that, notwithstanding the enlargement, the thickness of their walls remains very similar, which would not take place if the cell was constantly increased in diameter.

Fig. 6 reproduces the intersection of cells taken in their thin portion, a transverse section at the height indicated at AB in Fig. 4. Fig. 7 gives us a similar intersection, but taken, in this case, through the center of the lump CD in the same Fig. 4. From these last two photographs we may ascertain the huge amount of wax constantly displaced by the bee in the building of the cell from foundation.

Until now we have but examined in a general way the different phases of the construction of the cell. We have seen the wax gradually brought by successive displacement, until the comb is constituted, but this comb has not yet given us the entire secret, since we have not yet noted the impress of the bee upon her work. The constructions built of green wax, much more opaque than naturally-built combs, allowed the detection, with the naked eye, under a certain light of very fine lines, streaking the ribs of the cells in a direction perpendicular to their axis We at first thought that these lines were caused by molecules of dye suspended within the wax, and that the coloring matter had settled, at the time of the making the sheets, in a direction parallel to the midrib of the sheet. However, our curiosity was awakened, and the side of one cell was placed under the microscope and normally lightened by transparency. The coloring molecules, neatly visible, were scattered here and there, but the diffusion of color had been produced concentrically around each of these molecules, thus forming a hazy spot. It was evident that the lines noticed had not been produced by the coloring substance.

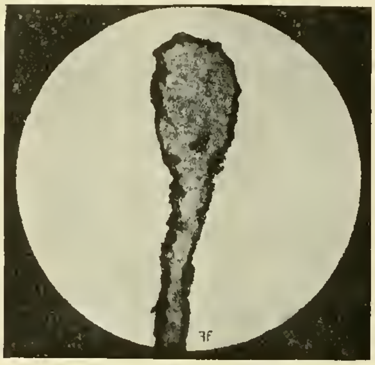


Fig. 5.—Third stage.

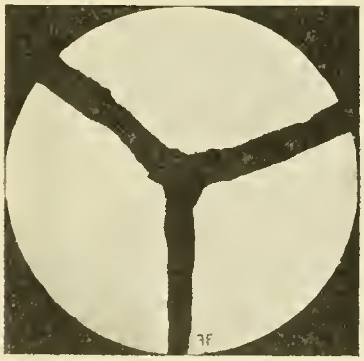


Fig. 6.—Intersection of three cells—section through the thin part on the line A B, Fig. 4.

Oblique lighting was substituted to direct light while we turned the preparation in the opposite direction. We then saw small furrows which stood out plainly when the side of the cell was parallel to the ray of light. We had under our eyes the micrograph given in Fig. 8, which reproduced an endless scale of green colors. The lines mentioned are plainly visible. These are the traces left by the workers, and prove that the cells are worked in a direction parallel to their base, and not perpendicular to it.

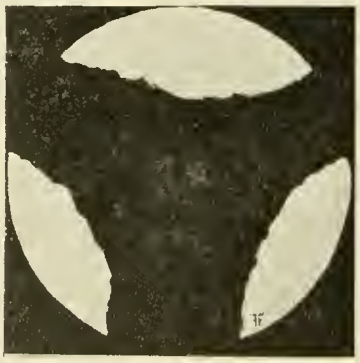


Fig. 7.—Intersection of three cells—section through the middle of the lump on the line C D, Fig. 4.

The building of the cell is therefore not due to the lengthening out of the wax under the effort of their mandibles. The cell is not drawn, as is generally supposed, for *drawing* would mean an operation in the direction of the length of the cell. It is exactly in the other direction that we see the imprint of the bee's work. And then would not this process disintegrate the molecules of wax? It would pull them apart, while beeswax needs all its cohesiveness—all its resisting power. To our mind the method employed by the bee comes nearer to the work of the potter, who, from the mass of earth piled upon his wheel, will bring into shape an elegant vase. We see the wax displaced under a progressive lateral pressure in every way similar to that employed in the rough modeling of clay and of wax. Besides, the mandibles of the bee have a shape similar to that of the human thumb, which is often preferred to tools by the workman, in order to give the desired contour to the plastic material.

This explanation of the working-up of the foundation sheet seems the more plausible because it rests upon an observation of documentary value, and because it agrees entirely with the verifications which we have been able to make previously while examining the section of the comb. Have we not seen the wax pressed out progressivly from the center of the base towards the edges? The latter is thinned out in identical manner; then, under the continued pushing forward of the material sliding upon itself, the lumps have shown themselves presenting a clear, triangular cut upon the edge of the partly-built cell. Does not all this indicate that the erection of the cell upon foundation is simply a labor of *repoussage?*

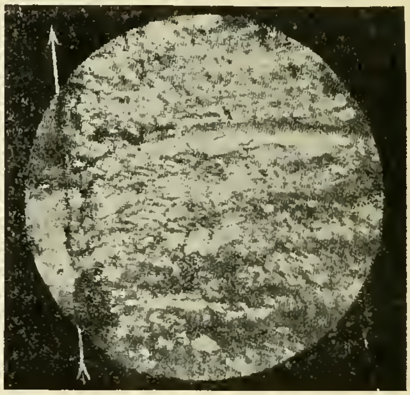


Fig. 8.—Part of wall of a cell showing the lines left by the work of the bees. Those lines are at right angles with the cell-wall indicated by the arrow—enlarged 45 diameters.

While we have just noticed that the *drawing-out* of the wax could only pull it apart and render it unfit for building, on the contrary, here we see the wall of the cell become *hammer-hardened* under the action of this repoussage become compressed, and acquire, by this method, the maximum of resistance which it is capable of furnishing. There, as elsewhere, the honey-bee has selected the best process.—Translated by C. P. Dadant, from L'Apiculteur for March, 1911.

Correction.—A very grievous error crept in the May number of the American Bee Journal. Mr. C. P. Dadant translated for us two articles from Foloppe Freres, taken from L'Apiculteur, of Paris. The cuts which should have accompanied the first article in the May number were left out, and cuts that belonged to the second article were inserted instead. We here reproduce the 3 cuts which should have accompanied the May number. If our readers will read over that article which describes the use made by bees of foundation containing too much, too little, or a sufficient amount of wax to build the entire combs, and compare with the cuts accompanying this correction, they will readily comprehend the meaning of them.

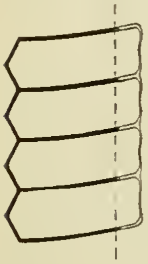


Fig. 1.

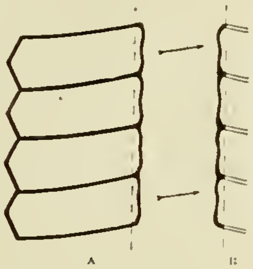


Fig. 2.

Fig. 1.—Thinnest Sheet. (Section of a finished comb. The cells could not be entirely finished out of the dyed wax contained in the foundation. The addition of natural wax by the bees is shown in lighter shade.)

Fig. 2.—Thickest Sheet. (A—Cells and cappings have been made out of the dyed wax of foundation. The excess of this wax has been carried over to the opposite comb B. B—Dyed cappings sealing a naturally-built comb. The wax contained in these cappings was gathered from the opposite comb.)

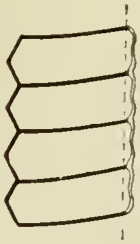


Fig. 3.—Medum Sheet. (The cells were drawn entirely from dyed wax in the foundation supplied. The cappings alone have been supplied by the worker-bees out of natural wax.

The cuts printed in the May number, and which were unintelligible to our readers, are now re-printed with the second article.

This essay shows minutely the manner in which the bees manipulate the foundation given them. It will be found very interesting, and shows profound study on the part of its authors. —The Editor.

Far Western Bee-Keeping

Conducted by Wesley Foster, Boulder, Colo.

Poultry Systems, Bee Systems, Etc.

We see in all the papers and magazines advertisements of poultry systems and various other systems of making a sure thing of the various pursuits indicated, and at first one is apt to say it is much too strongly stated; but whether exaggerated or not, these systems all appear to me to be far in advance of the unsystematic methods of many farmers and gardeners. I believe the "systems" have their chief merit in bringing about an orderly manner of doing the work, and I wish that we might have a half-dozen or more of "sure winner" bee-systems. I think it would make for advancement in bee-keeping by cutting out a lot of false motions that so many go through with. There is so much in knowing all the schemes that will not work, for our success in anything quite largely lies in knowing what not to do. Some of us need to be told just what kind of a hive to use, where to place it, when to spread brood, when to give honey, when to put on supers, and when to take them off, that I really believe some of us could keep bees better by following a bee-system book than by trying to use our own eyes and brains.

Advantages of Co-operation

I wish that we might go to sleep for a hundred years or so, if by so doing we could waken with minds freed from warped conceptions of the righteousness of the competitive system. And still we need not go to sleep, either, for we have examples right before us of co-operative associations which are proving the wastefulness of a half-dozen men or concerns running around over the territory after the business that one man could easily attend to.

On our street are seen the wagons of 20 grocers, but we do not have 20 postmen covering the same route. Why is this? It is simply that competition has been eliminated from the postal business, and it still obtains in the grocery business. In Boulder, a consumers' store has been organized, 300 families having subscribed for stock at $100 per share. A capable and responsible board of directors has been elected, and it appears to be starting in to do the consumers and producers some good in the sale of all merchandise. The stock is not to draw any dividends, but the stockholders are to buy goods at cost plus operating expenses. This is true co-operation, and will no doubt succeed if carried on honestly and wisely.

I never heard of a co-operative venture succeeding where the members were not enthusiastic advocates of the principle of co-operation. If you believe that men can do business better together than independently, and have enough others with you who believe the same way, you can make a success of a co-operative honey-marketing and bee-supply-purchasing association. It requires a certain mental attitude to make a good co-operator. Such will talk more about "we" than he will about "I."

If you are a little doubtful about co-operation, get some books telling the story of co-operation the world over—you can find something about it in almost any library—and read about the way the thing is working. Dr. Lyman Abbott, who can not be charged with being exactly a Socialist, said that the "capital and labor" question would never be settled until the man who used the tools owned them. This means that we honey-producers must eventually own our sources of production of bee-supplies, and our means of distribution—the commission and distributing houses.

The farmer bee-keeper of a few years ago could go to the woods and select his logs and saw them into bee-hives for his own use, and he could sell his honey direct to the consumers, who were generally his neighbors. But now things have become so complex through specialization that such direct contact with the source of hive-supplies and market is impracticable if not impossible. Co-operation has for its aim the return to this direct relation between source of supply and distribution through the means of the co-operative association. Why should the bee-keepers be behind the farmers in laying hold of the means of production and distribution? The farmers own some 30 stores in Colorado at the present time, and they are fast multiplying.

Migratory Bee-Keeping

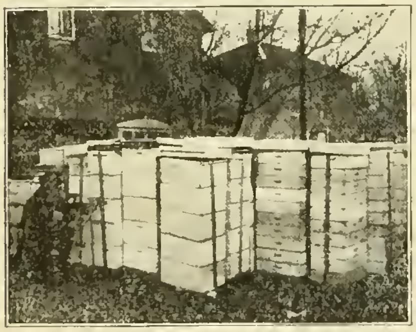
Migratory bee-keeping is certain to be resorted to more and more as the progress in our industry is made. And the ease with which bees may be moved will be greatly increased by simplifying our hives and hive parts. We must have a method of securely fastening the frames with one wedge; the cover should not be larger than the top of the hive, and the bottom-board would be better if it was the same. Hand-holes are a nuisance in moving, and should be discarded if much moving is to be done. The sawed-in hand-hole is sufficient for an 8-frame hive.

We have just loaded two cars of bees, and shipped them a thousand miles, and have learned a few points that may be of interest. If shipping in warm weather the screens must be arranged so that spraying can be done easily on each one. Some of the screens we used were placed over the entrance, and others were placed on top of the hives. The hives with the screens on top were placed on top of the hives with the screens on the fronts. An alley was left lengthwise of the cars to make spraying easy.

The bees were loaded in but one end of each car, and the other end was loaded solid with supplies and braced in by 2x4's. No supplies were put on top of the bees, as we wanted everything free for spraying. A fine spray pump and a barrel of water kept everything cool when there was any need of a cooling off.

First, strips an inch thick and 4 to 6 inches wide were put on the bottom of the car, and tacked down so they would not slide around and get out from under the hives; then one tier of hives (about 60) was put in which reached to the doors. Each hive was blocked in separately by nailing the blocks at the corners of the bottoms into the strips the bottoms rest on. The entrances were facing each other so that the spraying could be easily done. When the first tier was in place 6-inch boards were put on top of the first tier of hives, and another tier of hives was put in the same as the first. We put in 4 tiers and a part of 5 tiers high.

There is one point that should be emphasized, and that is, have the hive bodies, bottoms and covers nailed together with a strip of lath at each corner, and then when blocking in, block each hive independently to the strips on which it rests, having these inch thick and 5 or 6 inch wide strips fastened so they will not move from side to side or end to end. Do not do any bracing against the hive-body, but let the bracing done by the blocks be against the bottom-board. If you should block in the bottom-board tight to the strips and then brace against the hive-body, you would very soon have the hive knocked off its bottom-board.



Crating Hives and Supers for Shipping.

When the tiers are all in, then 2x4's should be run from the top to the bottom of the car, butting against the ends of the bottom-boards and the board strips that the different tiers rest upon.

The hives at each side of the alley must also be braced in so that they will not work over and fall into the alley space. It would surprise you, if you have never moved bees in a car, to see how hard they bump you at times. They broke two 2x4's for us at one time.

Use lots of nails, and do not *guess* that everything is strongly enough braced; it is better to *know* that everything is solid.

BEE-KEEPING IN DIXIE

Conducted by J. J. Wilder, Cordele, Ga.

Southern Bee-Keeping vs. Northern

It is a very common thing for one who has always lived in one section of the country to fail to comprehend the difference between circumstances there and those of other sections, especially where the climatic conditions vary greatly, and that is as true with bee-keepers as with any other class; hence, we see bee-keepers of the North failing to understand the conditions for successful bee-keeping in the South, and *vice versa*; and it is naturally very difficult to explain the conditions of widely different sections so that people whose experiences have always been in one, or in a few similar localities, can understand perfectly. This is unavoidable; for the mind must use its past experiences as a stand-point from which to project the imagination, and a light by which to understand every new thing that is presented to it. I have been considerable of an illustration of this principle myself, and my experience may possibly benefit some others, if I can give it aright.

I lived in the North, mostly in Iowa, where the wintering problem was, and still is, one of the most difficult that a bee-keeper has to contend with. In my locality (Washington Co.) there was practically every season *some* surplus honey to be obtained if one had the bees in storing condition when the honey-flow came, and if weather conditions were always favorable it would be a very fine locality for honey, for when all things "hit right," we had a very rapid honey-flow for 6 weeks, from white clover and basswood, and a fairly good flow for about 4 weeks from heartsease. When running for extracted honey, as I did mostly, there was no excessive swarming, and when comb honey was produced the honey was quickly made and easily preserved from insect pests, and all surplus combs kept through the winter were free from wax-worms if kept where the moth could not reach them; but the expense and trouble of caring for the bees through the long, cold winter, and the difficulty of having them ready to gather the nectar when it came, is a great drawback which is liable to make the bee-keeper think that all he needs is warm weather and flowers.

In 1888, I first came to this State, locating at Dalton, in the northwestern part, having found it, as I thought, an ideal honey locality, as there was a great variety of honey-plants, which, if they had yielded well, would have given an almost uninterrupted flow the entire season. I had read from some writer from Atlanta, that it did not pay to keep bees in North Georgia, but I just laughed, for I thought I knew better; but after trying it for 5 years, and never getting a crop of honey to come up to my poorest yields in Iowa, I began to think differently. I lost a good many of my bees from slow starvation—they would gradually dwindle away while there were plenty of flowers and plenty of rain, and it required lots of feeding to keep up my apiary at all. I then moved to this place, after I had looked over this and some other localities, and talked with a good many bee-keepers, besides examining the *bees*, for I knew that they, at least, would tell me the truth when rightly interrogated.

Everything seemed favorable for great success, but when I came to try it, I found things were not altogether what they had seemed, for while some colonies did store as much as 100 pounds of section honey in a season, it was much more exceptional than I expected, for the bees were very prone to swarm, even when run for extracted honey, and there were few colonies that did not waste a large part of the honey season in excessive swarming. I saw that *locality* had much to do with that, for I had exactly the same strain of bees that I had in the North, and had bred them from the non-swarming ones until I thought I had almost established a non-swarming strain; but when I brought them here, such swarming, I think, few Northern bee-keepers ever saw! I sometimes had a dozen or more swarms in the air at once, and for several days in succession, some seasons, and what was worse, the bees would often not stay hived on comb foundation, full frames of comb, or with brood, and after-swarms could not be prevented with any certainty; but while such things are the case in one apiary, another only a few miles distant may have no such trouble, and the same apiary does not do that way every season, but only when there is a great abundance of thin nectar, as I notice the nectar here is generally thinner and requires longer time to ripen, so that bees require more ventilation than I thought necessary; but we are getting wiser all the time, and when a strain of bees is used that are good at ripening our thin nectar, they are not so prone to swarm excessively, and the bee-keeper can therefore manage more of them, as here the wintering problem is only a question of sufficient stores in a "respectable" colony of bees.

It pays to requeen here oftener than in the North, for I have never known a queen to live longer than 4 years, and she is often missing after the second year. As the season is so long here, and the time for building up for the first flow of nectar also long, it is easy to have the bees in good condition, but the queens need to be looked after, and the hives repaired, for they rot here much sooner than in the North; and all combs must be kept where the bees can take care of them, for wax-worms will destroy them even in the winter time.

Here the season's work with bee-keepers, as with farmers, commences the 1st of January and ends the 31st of December; but there need not often be any great hurry unless one gets behind with his work.

Bees get pollen here, generally, in every month of the year, and, of course, consume stores rapidly while breeding, so that the early sources of honey are appreciated, and appear nearly everywhere in this State; and although the readers may have read a good deal about the honey resources of South Georgia, it may not be amiss to mention some of them again.

There are many minor sources of honey, but after fruit blooms the first storing is sometimes done here from black gum (Nyssa biflora), and in places corn - itch vine (Tecoma radicans), which are of short duration and bloom about the last of March. Further south the black tupelo gum (Nyssa uniflora), and the early ty-ty (Cliftonia monophilla) give a much better yield and earlier, and are closely followed by the white tupelo gum (Nyssa ogechee), which is said to be a very rapid yielder for about 10 days.

About the first week in April the holly (Ilex opaca), blackberry and poplar (Liriodendron) all come into bloom here, and yield pretty rapidly for about a month, closely followed by the gallberry (Ilex glabra), a fine yielder of the best honey for about 2 weeks, and in a few places the white holly (Ilex myrtifolia), and these are followed in most places by the late ty-ty (Cyrilla racomiflora), which comes in June here, and lasts about 3 weeks, after which there is nothing that will yield surplus, but many things that keep the bees from being very idle, and one of these (Ampelopsis arborea) is a vine of the grape family, may yield a little surplus. Cotton commences about July 1st, and continues to yield something—it depends upon the kind of bees and the weather how much—for the rest of the season.

In places, and perhaps nearly the whole of southeast Georgia, the saw palmetto (Serenoa serrulata) abounds, but I think it is an uncertain yielder, while nearly all of the others that I have mentioned rarely fail entirely, and there are many localities where nearly all of them abound, so that south Georgia may be considered as affording as safe places to keep bees, especially, and, at least, a fair amount of honey every year, as anywhere in the United States.

All the honey produced in this region is at least fairly good, as compared with the average honey of the North—the worst is the poplar, which is dark, and does not sell very well for table use after it is kept a month or two.

We have never had honey-dew here to any damaging extent. Here we never have a heavy yield, and never a total failure so as to have to feed—except sometimes a few weak colonies.

I am not sure that we have found the best bee for this section, but we are coming at it, and you may hear from me later on this subject; but it is not the same strain that is best for Iowa, for we must have a bee that will keep up sufficient brood-rearing through the long summer, or we will get no surplus honey from cotton.

The conditions here of many sources of honey—often several different kinds coming in at the same time, and often short cessations of the flow, and seldom a very rapid flow, so that it has usually to be left on longer, and as propolis is very plentiful, it is impossible to prevent travel-staining of a large part of the crop, which makes it a poor place for section-honey production, notwithstanding that bees produce wax and build comb rather more readily than in the North, and much of the wax-secretion is involuntary—they use a large amount in building brace and burr combs, so it is best always to keep them with a little new comb to build.

Bulk-comb honey will certainly pay better here than section honey, for we must have a convenient way of keeping our honey in a marketable condition after we get it, which is hard to do with section honey, the finest of which comes early, and unless disposed of immediately will keep one in anxiety until sold, on account of the numerous and ever-active insect pests. Some bees will not ripen cotton honey so that it will keep liquid in sections, but extracted cotton honey is all right, even if candied, which it is sure to be soon after extracting. Bulk - comb honey in the North will not likely find much favor on account of candying, but extracted honey is all right everywhere—where people *think* rightly.

Leslie, Ga. T. W. Livingston.

Apiary Work for June

The honey-flow from cotton will come on next month in the great cotton belt of the South, and this month's apiary work is of vital importance, for the bees should be made ready for the harvest, which will begin slowly next month.

In our last month's apiary work we endeavored to set forth the great importance of obtaining and introducing better stock of bees in our apiaries, and removing all surplus honey, etc. Now we are ready to look into the brood-nest and start bee-production.

At this season of the year there is, in most locations, a great supply of pollen, which the bees are carrying in along with a little nectar, and the weather is settled and warm, making conditions ideal for brood-rearing, and if the queens are prolific, they will get active at once, after the slack from the spring flow.

But at this season of the year the brood-nest is usually crowded with honey, especially in comb-honey apiaries, for when the spring honey-flow began to pass off, the queens slacked in egg-laying, and the bees crowded in behind them, filling the combs with honey, and the queens can never highly populate their hives again until next spring, by which time the bees have eaten away this bulk of honey, and the queens can occupy this comb again. Now, this honey should be removed, one or two frames at a time, and extracted, and the comb inserted into the middle of the brood-nest, or exchanged in some way for empty combs, so as to give the queens the use of them again, and as fast as she will fill them with eggs give them to her, and in this way produce the bees for the approaching flow.

Of course, precaution should be used, and not all the honey extracted from the brood-nest, for the bees might run short of stores and have a set-back before the flow came on. The usual rims of honey around the frames of brood should be left, where it is not too deep.

If any colonies have run short of stores on account of being weak during the spring flow, these frames of honey can be given them and they built up to strong colonies during the honey-flow, by constantly spreading the brood-nest, inserting empty combs in them, and if the queens are not stimulated enough from the frames of honey given to occupy them readily, a little feeding can be done.

It is yet not too late to introduce better stock, and a good time to get ready to transfer from box-hives during the honey-flow from cotton, or buy bees and establish apiaries, etc.

Editor E. R. Root in Dixie

Mr. E. R. Root, editor of Gleanings in Bee Culture, spent several weeks in Dixie during February and March, and while here touched at many points in visiting bee-keepers, and it was a rare treat to us, who had the pleasure of meeting him, and having a face-to-face talk with such a noted editor. He touched at this point last on his return to Medina, and expressed himself fully as to what he saw of bee-keeping here, and of its future, and was surprised to find so many of us so extensively engaged in bee-keeping, and how we operated with such a small amount of labor. Well, it is this way with many of us:

Our first honey-flow comes the latter part of February, and the last flow goes off in November, with perhaps a few days, or may be 3 or 4 weeks, intervening between some of the flows during this time. So we have over 8 months to harvest and market a crop of honey. Then, too, in most locations we never have an overwhelming crop of honey, owing to the honey-plants being scattered, etc., the average being about the same, year after year. So we don't need so much help, but we need it for a longer time.

Editor Root was also surprised to know what serious problems we were often confronted with here, some of which came under his own observation while here, that he had never heard of before, of which we shall know more later.

Another thing that seemed to surprise Mr. Root, was that our queens occupied the comb right down to the entrance, even in cool and changeable weather, seemingly in preference to that in the remote parts of the hive. This scores another point in favor of ventilation, which we so strongly advocate.

This fine 90c Honey-Spoon and the American Bee Journal for one year—both for only $1.75. Send all orders to to George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

McEvoy Treatment of Foul Brood

What is the process for remedying foul brood by what is called the "McEvoy System?" NEW JERSEY.

ANSWER.—Here is the treatment as given by Mr. McEvoy;

In the honey season, when the bees are gathering freely, remove the combs *in the evening*, and shake the bees into their own hive; give them frames with comb foundation starters on, and let them build comb for 4 days. The bees will make the starters into comb during the 4 days, and store the diseased honey in them which they took with them from the old comb. Then in the evening of the fourth day take out the new combs, and give them comb foundation to work out, and then the cure will be complete.

Burr-Combs—Division-Board Warping

1. Should burr-combs be cut out from between frames when they appear?

2. Will bees tear them down as they do queen-cells?

3. What is the cause of the light division-boards warping, which come in the hives? CALIFORNIA.

ANSWERS.—1. It is better to cut them out every year or two, as they are in the way, and make it difficult to crowd the frames together without killing bees.

2. No, the bees never clean out burr-combs, and the presence of any of them between frames seems to be an invitation to the bees to build more. On the whole, it may pay to clean them out every spring.

3. Likely because made of basswood, as I have had some of that kind. Basswood is not fit for any part of a hive except sections. Too warpy.

Keeping Empty Combs Over Summer

I have a lot of honey-combs that I will have to keep through the summer months. What is the best remedy to keep the moths out of them? I have them packed closely in a chest. Will fumigating them with sulphur do, or is bi-sulphide of carbon the best? SOUTH CAROLINA.

ANSWER.—Sulphur will do, but it takes a great deal of it to finish the big worms, and it does not kill the eggs, so that it must be used again two weeks later to kill the worms that have hatched out from the eggs that were left. Carbon disulfide (which is the later name of bisulphide of carbon) acts more vigorously, and at one operation cleans up big and little, eggs and all. After you have the worms all killed you must keep the combs where the moth can not get at them.

On the whole, it is nicer to give such combs to the bees. They will clean them up and keep them in nice condition. You can fill a hive-body with them and put it under a colony, so that the bees must pass through in going out or in.

Super Management for Most Honey

1. Do you consider it best to take the super from the old stand in which the bees have commenced to work, and place it on a new hive in which the new swarm has been hived, such hive having 2-inch starters in brood-frames?

2. I understand that if this is practiced the bees in the new hive will store the honey in the supers, and that the queen can occupy the brood-combs in the meanwhile without being rushed; but if the colony would not be able to store enough honey in the brood-chamber for their own use, would it be best to leave the full super on, or remove and feed syrup until they have enough stores? Give any other advantage, if any, gained by this practice. IOWA.

ANSWER.—You will probably do best to put the swarm on the old stand, removing the hive to a new stand. That will throw all the field-force into the swarm, and it will give more surplus than both will give if the forces are more evenly divided. There will be no need to feed. You may take the partly filled super from the old hive and put it on the new one if you have a queen-excluder under the super. If you put it on right away without an excluder, there is danger that the queen will go up and lay in the super. If you do not use an excluder, do not give the super to the swarm for 2 or 3 days, or until the queen has made a start at laying in the brood-chamber. Do you think you are rich enough to afford to use 2-inch starters in brood-frames? It is better economy to use full sheets of foundation.

Keeping Swarming Down

I have 18 colonies of bees, but have not had much experience with bees. I want to run for comb honey and not much increase. I am going to hold swarming down the best I know how. If a swarm comes out, if I go in and cut out all queen-cells but one, return the swarm and catch the old queen, would they be likely to swarm again? How can I keep them down so as not to make much increase? NEW YORK.

ANSWER.—Your plan will work all right generally, only you might not leave the best cell, and there is a bare possibility that you might leave a cell with a dead grub in it. There is a way that is a little better and surer. Return the swarm, remove the queen, and leave the cells untouched. Then a week later begin listening each evening after the bees stop flying, by putting your ear to the side of the hive. When you hear the young queen piping, go to the hive the next morning and cut out *all* cells. That's all. It will be less trouble if the queens are clipped. In that case catch the queen as she hops out on the ground, and the swarm will return of its own accord.

Italianizing Colonies—Introducing Queens

I have a few colonies of black bees that seem to be weak, though they are beginning to carry pollen. Would it not be better to wait until later in the season before I attempt to introduce Italian queens. Should I not catch the old queen and destroy her before I send for the new one? I have heard there is less danger of having the queen killed when she is introduced, if the colony has been without a queen for some time. Should the queen be clipped before she is introduced? I see Dr. Miller advises it. Will you kindly let me know what I am to do? I want to send for 2 queens at the proper time. NEW JERSEY.

ANSWER.—You will probably do as well to wait until some time in June. Better not kill the old queen till the new one arrives. There may be considerable delay, and it is not well for the colony to be too long queenless. You can have the same, or a greater, advantage by keeping the new queen caged in the hive 2 or 3 days before allowing the bees of the colony access to the candy to liberate her. Most bee-keepers nowadays prefer to have queens clipped, and most of those who sell queens will clip them before sending, without extra charge, if you so request.

Foul Brood Contracted by Colonies

In November, 1909, I sold 2 colonies of bees to my niece living in Bellefontaine, some 18 miles from here. They wintered well, and I think both stored some surplus honey the next summer, one of them swarming.

Last February, some 15 months from their removal, the 2 old colonies were found dead; samples of comb, etc., were sent to Dr. Phillips, Washington, D. C., who pronounced them afflicted with foul brood of the American variety; the "swarm" is still living.

Now, bee-men in Bellefontaine think these bees were affected before their removal, and that the disease originated in my yards; but I know of no trouble among my bees, not having lost a colony for several years, nor have any of my neighbors, except we hear of two or three in the country which have evidently died from starvation.

Bellefontaine being a much larger town than this, has many colonies of bees that are not observed by bee-men, and could more easily have the trouble and it not be known. In which place did they most likely contract the disease? OHIO.

ANSWER.—One can only make a guess, and unless the case were very far advanced it would look more reasonable to suppose that the bees became diseased after removal.

Wax-Moth and Comb Honey

How do wax-worms get into supers of honey, generally? Are not the eggs deposited before the super is taken off? or is it by careless exposure in the honey-room to the moths? I pack away my supers of honey as fast as taken off, in large boxes with papers on, burlap between, with a close cover to each box, and each box made moth-proof at the start. When I have time at the close of the season I overhaul and examine every super, and take out any that show signs of worms. However, I don't get many wormy ones. WISCONSIN.

ANSWER.—I don't know. It hardly seems possible that a moth would make its way up through a strong colony into a super and there lay its eggs; and yet there seems no other way to account for worms there. You may seal up the super moth-tight immediately on taking it off, and yet two weeks later you may find the little worms present. The kind of bees have much to do with the case. Years ago, when I had black bees, I made a regular practice of brimstoning all my sections or there would be lots of trouble. Since having more or less Italian blood in all my colonies, I never fumigate sections of honey, finding no need of it.

Hive for Farmer Bee-Keepers

1. For a farmer bee-keeper who can not devote much time to bees, and wants to keep down swarming, do you consider the 10-frame hive with deep frames above (same as lower hive-body) better for the production of *bulk* comb honey than the shallow frames? (I might add that, so far, I have had demand right at home for all the bulk comb honey that I have been able to produce, some even wanting it cut out of sections rather than take a section of honey for a pound.)

2. Is it necessary to use a queen-excluding honey-board between the two hive-bodies?

3. If so, is the wood-bound zinc board better than the unbound zinc that is placed directly on top of the frames?

4. What do you think of the 10-frame hive compared with the 8-frame for my use? MISSOURI.

ANSWERS.—1. For the upper story you will probably like the shallow frame better; but with very strong colonies there will not be much difference.

2. I'm not sure about it, but as there are no old combs above, and fresh foundation to be filled each time, I would guess that there would not be any great need of an excluder.

3. The wood-bound with slats keeps its place better. Some, however, use the unbound sheet.

4. You are wise to use the 10-frame.

Keeping Extra Queens Over Winter—Managing 3-Frame Nuclei—New Jersey as a Bee-State

1. How do you winter a number of queens which were not used in the previous summer? For instance, a number of queens are reared by Doolittle's method of grafting, and after introducing all that the apiary requires, a number are left at the end of summer. Now, of course, when queens get together they fight, so each must be kept by itself. What method is employed for keeping them until wanted?

2. I have received a shipment of 3-frame nuclei with queens, and upon arrival I placed 3 frames in an 8-frame hive, and as I had no drawn combs I put in 5 other frames with full sheets of foundation. I had no frames of honey to spare from other colonies, so I started to feed sugar and water, equal parts (at night), and contracted the entrance to about ¾ inch in width. Did I do right? The spring has been very backward here in Jersey, but the soft maples are coming out

nicely now. How long will I have to feed them? I have never had any previous experience with 3-frame nuclei. Sugar is dear when you have to feed 6 or 7 colonies a pint of syrup every night.

3. What do you know of New Jersey as to location for the production of honey? Buckwheat is not very plentiful, but we have an abundance of wild aster, golden-rod, Spanish-needle, and lots of fruit-trees in this locality. NEW JERSEY.

ANSWERS.—1. I don't know of any way to keep a queen through the winter without having quite a lot of bees with her. The farthest I have ever gotten away from keeping each queen with a full colony of bees was by keeping 3 nuclei in one hive, and wintering them in the cellar. The nucleus in the center had only one Langstroth frame, and each of the others had 3 frames. It is possible that smaller frames might be used, and also a larger number of nuclei in a hive. With 3 nuclei in a hive, there was an entrance at each side in front, and for the central nucleus there was a 1-inch auger-hole at the back.

2. Yes, although it would have been better for the nuclei if you had taken frames of honey from strong colonies and then fed the strong colonies. The entrance might be only half as wide, until the bees seemed too much troubled with so small an entrance, being gradually enlarged as needed. It would be full as well, probably, if you did not feed them again at all, provided you could give them enough at one time to last until they could get plenty outside. It is better to let them have a good stock on hand than to feed each day just what they will consume. If you supply only their daily needs, you may have to keep it up until white clover yields, which, in your locality, this year may not be very much before the middle of June. Possibly, however, you may not have to feed after fruit-bloom or dandelions abound.

3. I don't know very much about it, but have always supposed it an average State as to bee-pasturage.

A Beginner's Questions

1. Do bees use pollen for anything besides making bee-bread?

2. I have heard a great many say, bees live only 30 days. What do you think about it?

3. I have a colony that produced no drones last year, and have not yet so far April 17th). What is the cause?

4. In warm weather, when the bees are fanning, do they do that to get the water out of the honey, or to cool the hive?

5. After brood hatches out about how many days will it before the bees go to work?

5. Last summer, some days when the bees would come out of the hive and start to fly away they would fall on the ground and go round and round and die in a minute. Do you think they got too hot, or what was the trouble? KANSAS.

ANSWERS.—1. I don't know, but little of it is used in sealing up the brood.

2. Worker-bees live several months if born late in the season; for they live over winter and until new ones are ready to take their place in the spring. Those that are born after the busy season begins in the summer, live 5 or 6 weeks.

3. It is possible that they do not desire to swarm, do not feel the need of drones, and have not much drone-comb in the hive. You may consider yourself fortunate in having such bees.

4. Both; but perhaps more than either to get fresh air into the hive. Bees seem to have a notion that pure air is a fine thing, summer or winter.

5. May be one.

6. It might be poison, paralysis, or there may have been some other disease.

Hives for Building Up—Getting Bees Out of Supers, Etc.

1. My frames are about 9 inches square, inside measure. I have some small hives that hold 4 and 5 frames each. Will they rear strong queens if given eggs? These hives are used to build up.

2. If I put in a shallow extracting super until nearly full, then put a **T**-super underneath, slip it forward and put 1-inch blocks under the front of the brood-chamber, will it work all right and prevent swarming also?

3. If I stack up 10 or 12 **T**-supers from the different hives on one colony with a Porter bee-escape underneath, will it work all right? Will the bees eat through the cappings? How long will it take them to come out? If this is not all right tell me how to manage. What time during the day must the bee-escape be put on?

4. In question No. 2 I expect to use a guard and wire honey-board with the extracting super. When the **T**-super is placed underneath, will it be best to remove the honey-board? I have never had a queen lay in a **T**-super, but have never used the extracting super with them on the same hive. KENTUCKY.

ANSWERS.—1. A hive containing 4 or 5 frames, each 9 inches square, would not hold a very strong colony, and a queen reared in it would not be so good as one reared in a strong colony, at least up to time of sealing the cell. After the queen cell is sealed it is not so important that the cell be in a strong colony, and in hot weather it will do very well to be in a nucleus.

2. It will work all right, and will help to prevent swarming, but it will not be a sure thing.

8. I hardly think the bees will gnaw the cappings, but they may be several days in getting out; at least that would be my guess. Besides, you would hardly want all the bees in 10 or 12 supers to be given to one colony. Better have an escape for each colony, or else use it in turn on the different hives; although it may do well enough to take a super or two from one colony and give to another.

4. You may leave the excluder on the hive when you add the **T**-super, or you may remove it. There is little danger of the queen going up if you remove it.

REPORTS AND EXPERIENCES

Bees and All "On the Jump"

Bees are keeping us on the jump. I never knew them in better condition at this time of the year. There is more dandelion and fruit-bloom than they can take care of.

Marengo, Ill., May 13. DR. C. C. MILLER.

Early Honey on the Market

The first new orange-blossom honey arrived here from Porterville to-day, which is early. Twenty-five cases of new honey sold readily at 9½ cents per pound for white. It is the highest price in years, as the market is clean of bulk. GEO. O. PARISEN.

San Francisco, Cal., May 15.

Appreciates the American Bee Journal

The "old reliable" American Bee Journal has been a great source of pleasure and profit to me for the past 16 or 18 years, and many a time a single copy was worth (to me) more than the price of a whole year's subscription. WM. H. BOECKEL.

York, Pa., May 1.

Bad Spring for Bees

We had a bad spring for bees. I lost 13 colonies after I put them out of the cellar with plenty of honey; but it has been cool and cloudy most of the time. I still have 34 colonies left, and they are very strong in bees and honey. The prospect is good, if the blossoms on the trees don't freeze.

L. M. SLABA.

Buffalo Center, Iowa, May 1.

A Normal Honey Season

This is a great May. Winter jumped suddenly off the lap of spring in the early days of this month, and all vegetation is putting on its best clothes. All fruits bloomed full—now about over—and dandelions are yellowing the pastures and roadsides. The only thing to make a bee-keeper blue are too many windy days, when bees with difficulty reach the honied mines.

Bees went through the winter fairly well, and are building up nicely. Everything indicates a normal honey season.

EUGENE SECOR.

Forest City, Iowa, May 18.

A Queen Experience

Last Saturday (April 15) I ventured out with the bees between showers, and on passing by a colony that had cast a swarm only 2 days before, my attention was called to the piping of the queen, so I just stooped low to be sure that the piping was in this colony. This was about 8 a.m. She would pipe perhaps 18 or 20 times, and then stop short, and perhaps in 10 minutes she would pipe again, and she kept it up until 11 a.m., when I left for the house, thinking perhaps it would cease raining in the afternoon, which it did.

I said to myself, "There is something wrong with this colony." So I went back, thinking that it was the swarming note, so instead of waiting for a fair day to let them swarm naturally with the chances of losing them, I divided them, and they are both satisfied and "working like mad." The colony had 16 brood-frames in it, giving each 8 frames.

I found 2 queens, 2 queen-cells capped, and 9 queen-cells uncapped. I used the queen-cells that were sealed, in other colonies, and both were accepted. On taking out the frames on the side I found that the bees had built out to the side of the hive to allow cells to be built, and there I found 3 worms ¾ of an inch long. So now I think all will agree with me when I say that I do not think it was so much a swarming note as it was a distress signal, for the bees did not give me any trouble. W. R. CUNNINGHAM.

Rayville, La., April 19.

Cleaning Creosote from a Bee-Smoker

A way to clean the creosote from a bee-smoker, which I find is very good, is to fasten a rag on the end of a stick and clean it with hot water. I thought I would give this, as there is probably more than one who is puzzled about cleaning the smoker. It might be of some benefit to anybody who wants his things neat and clean.

MASTER THOMAS LEACH.

Sunol Glen, Calif.

[This will work all right if the bee-smoker has not been used much, but a veteran smoker will need some soaking.—EDITOR.]

Texas as a Bee-State

As to the Texas report on bee-keeping, as given by Wm. E. Curtis, in the Chicago Record-Herald (see page 136), I would say that Bee Co., Tex., was named in honor of Gen. H. P. Bee, who served in the war with Mexico.

I also wish to say that there is no truth in Mr. Curtis' statement that one man at Beeville owns 8000 colonies of bees; and there is not a factory in Texas that manufactures bee-supplies, except in a small way, or for the manufacturer's own use; although Texas stands at the head of all the States in honey, and should have can factories and bee-supply factories, too. G. F. DAVIDSON.

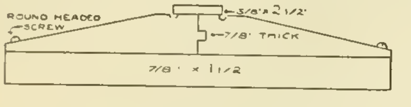
Big Foot, Tex.

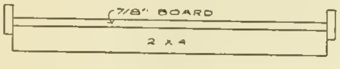
Hive Covers and Bottoms

In the February American Bee Journal I note the illustrations of Mr. Scholl's hive-covers and bottoms, so I will describe those I use, which I think are a great deal better.

When I began bee-keeping I could not find a cover that suited me; those sent out by the manufacturers of bee-supplies, which have the top boards fitted into a groove in the end cleat will soon rot out on account of water penetrating the joint; this is also the objection to Mr. Scholl's cover. So after much thinking over the matter I decided on this:

I go to the lumber yard and get stuff the right width to work out one inch wider than the hive, using 2 pieces. Take it to the planing-mill and have it tongued-and-grooved the same as flooring. Then one inch from the edge I have a little groove cut, about ¼ inch wide and ⅛ deep; then about an inch from that begin to level and run down to ⅜ inch thick at the outer edge. This I cut to length 2 inches longer than the hive. Then take a piece of ⅞ by 1½ inch stuff and nail the two pieces on it, putting the matched edges together with lead and oil. Then get a thin piece for a ridge-piece, wide enough to come to the center of the little grooves. At each corner I put a 1¼ inch No. 9 round-headed screw; this keeps the edges from curling up. A nail would pull out, but the screw does not.





I have some that have been in use 4 or 5 years, that are as flat as ever, and there is no obstruction to prevent water running off, and no joints for it to soak into and cause decay.

For bottoms I make concrete blocks, the width of the hive and 3 inches longer by 2 inches thick, and cut out of ⅞-inch stuff pieces ⅞-inch wide at the front and ⅜ at the back end, for the sides of the hive to rest on; also a piece ⅜ thick to fill in at the back end. Use these pieces on the blocks to set the hive on. I don't use any bottom-*boards*. This gives a good entrance ⅞ deep by the width of the hive. These blocks cost about 15 cents each, and will last always, and do not furnish a hiding and nesting place for mice, spiders, and other pests.

When I use a wood bottom I get a board the width of the *inside* of the hive, and 2 inches longer (or get 2 narrow ones), and nail a 2x4 at the back end, and one 3 inches from the front, then nail a board of ⅞ by 2½ or 3 inches around this on the 2 sides, and at the back end, letting it project up as far as I want the depth of the space under the frames. This also prevents water getting into joints, as in Mr. Scholl's hive-bottom. The 2x4 blocks keep it a nice distance from the ground. L. C. ROUSSEAU.

Waxahachie, Tex.

Bees Wintered All Right

I had all my bees in the cellar the past winter. I put them in Oct. 27th, and they were in the cellar until about March 25th, when I took out 10 of the 19 colonies, and they had wintered well in a cellar where we have potatoes. It is under the house. The bees had a flight the same day, then it became cold for about 2 or 3 weeks, so I put them back in the cellar, and they remained there until about April 10th, when I carried them out again. Those that had not been out I took out a few days afterward, so I had all my bees outdoors by the middle of April. I lost 2 colonies out of 19. The bees wintered all right. One colony had not more than 15 pounds of honey last fall, but is in good condition now.

We had snow here yesterday, and a little cold, so the bloom on the trees is damaged; but the dandelions are out.

ALGOT B. BERNSTON.

Bagley, Minn., May 12.

Do Bees Move Eggs?

Well, well, well, I should say they do, and I can not understand why all bee-men of experience have not seen that proven to their entire satisfaction.

I have just read Mr. Robinson's article (page 110), and agree with him all the way through, as I have seen just such evidence of bees moving eggs and larvæ.

Many years ago—long before I learned that queen-excluders were honey-excluders as well—I gave a super of dry combs to a strong colony to prevent swarming, but placed a queen-excluder between it and the brood-nest, and was surprised a week later to find several fine queen-cells on the combs over the excluder. There were no other larvæ or eggs in the combs.

I have long since learned not to use the word "never" in speaking about the doings of bees, but I am quite sure I would be safe in saying that good queens never lay in queen-cells. Certainly I have seen eggs in queen-cells, but I have never seen a queen lay in queen-cells, although an old or failing queen may do so.

I wonder that a man like Mr. Abram would say that an egg can not be moved from where the queen put it without ruining it; perhaps he never tried it, and was only guessing at it.

And now, while I am about it, let me advise all bee-folks never to guess at bees or their work. If you do, you may "get left."

As many of the readers of the bee-papers know, I am an old queen-breeder, and have grafted many eggs into artificial cell-cups, and instead of them falling out or being thrown out by the bees, they have turned out to be the mothers of many fine colonies.

Now, if I with my clumsy fingers and instruments can transfer eggs without ruining them, why can not the bees, with their delicate mandibles, do the same?

Yes, bees can and do move eggs and small larvæ, and I have good reasons to believe that they sometimes steal eggs from other colonies with which to rear a queen.

San Benito, Tex. GRANT ANDERSON.

Cold and Wet Spring

Bees went into winter quarters in rather poor shape in this section last fall, and we are now having a cold, wet spring, which is causing the loss of many colonies. There is no bloom as yet, except elm and peach. Clover, however, looks fine. JNO. S. COE.

Boyce, Va., April 23.

Apiary of Ulysses Adams

The picture herewith shows a part of my apiary with myself holding a 6-section frame of honey. The tree at the left is a large cherry, and the one to the right an apricot.

APIARY OF ULYSSES ADAMS.

The limb projecting above is part of an old plum tree. I am 73 years old and have poor vision, but have managed my apiary of 93 colonies alone. ULYSSES ADAMS.

Missouri City, Mo.

Bee-Keeping in the Ozark Mountains of Missouri

I would be glad to tell what we of the Ozarks of Missouri are doing in the way of apiculture, although you seldom hear from this section—one of the best in the State for the production of either comb or extracted.

Mr. J. W. Rouse, of Mexico, Mo., says that the statistics quoted by himself as taken from the (old) Report of the Bureau of Labor, are a pretty good showing, taking into consideration the general output of the United States. That report is made up by the railroads, taken from their shipping records, and, of course, only that which is shipped directly from one county to another is taken into account.

There are thousands of pounds of honey produced in the State of Missouri, of which no record whatever is kept. Much of it is sold to neighbors of the apiarist who are afraid of bees and in the smaller towns along the railroads, and at good, round figures, too, for this section of country is blessed by Nature with an abundance of honey-producing plants and trees, besides the favorable climate, making it unnecessary to place bees in cellars, feeding in spring or fall, or to protect in spring on account of spring dwindling—things which we only "read about" even in the northern part of the State, and look upon with amazement and wonder "how it is done" just a little further north.

It is true that this part of the country is sparsely settled, fortunately for the up-to-date bee-keeper, who with modern ideas and modern hives, and Italian bees, wishes to produce the "real thing" in the way of honey. In my position, with practically no competition, and 400 acres of land of my own, besides section after section of land on each side of me, the nearest neighbor who even pretends to keep bees being from 3½ to 4 miles distant, it looks as if such a range of wooded lands and a plenty of clear running water from innumerable springs should produce honey—hey?

At this date (April 10) my colonies are ready for the supers, built up strong and chock-full of brood and honey, and all I have to do is to alternate, put the lower brood-chamber on top of the upper, and the supers will receive a welcome from the bees. During the past winter there was not a week at any one time when the bees did not have a flight, wintered on the summer stands, and without any protection whatever, frequently flying every day.

While I am a beginner (out here) so far as starting up a new apiary is concerned, I have been a resident of this section of country for the past 4 years, and for 20 years interested in apiculture. The other men along this line are of a class who are against new ideas altogether. They keep their bees as their grandfathers did—in box-hives and gums. If they get any honey they take it for their share as contributed by their bees from Nature's storehouse, and eat it or sell it at the country store in exchange for fat meat (which few put up in winter) for their family use.

For the past 30 or 40 days the woods and fields have been literally carpeted with wild bloom; followed afterward by the peach orchards, then the pears and apples; now the wild pansies, violets, phlox, verbenas, dogwood, plums and wild cherry, besides innumerable bloom with which I am not yet familiar. After these come the catnip, "British tea," sumac, wild raspberry, blackberry, etc., all in readiness to give a good yield of honey. Then the white and red clovers, the former all along the roadsides (the latter in the orchards), and sage, wild grapes in great profusion, and Japan clover, which seems to be taking the country.

Later in the season for fall honey we have a profusion of aster bloom, heartsease, golden-rod, etc.—a "continual profusion" for the bees from March 1st to Nov. 15th at the latest, when we stop manipulating and let the bees gather enough stores for winter. An apiarist has to hustle during much of this time, but by proper manipulation of hives, frames, and sections, he can "make good," and increase without troubling the flow of honey, for a swarm in May will build up to a strong colony by August, and produce surplus, besides.

It seems funny to read of getting ready—colonies built up strong for the "honey-flow" which lasts only a few weeks at best in Northern climates. Almost as funny as to hear these old farmers speak of this country not being fit for bees, when, if they would burn up their old boxes and give the bees more room and ventilation they would change their minds. They are afraid of their bees, anyway, and knock off the covers of their hives "semi-occasionally" to see if any honey is there. I would like to buy some of their swarms as they issue, but I am afraid to do so on account of the condition of the bees. The same combs have been used year after year, and if foul brood is not rampant, I don't know why not.

In a radius of 20 miles I know of only 3 or 4 farmers who keep bees. They are usually the black bees, gotten from the woods, most likely, but some of the box-hives have a double story with hand-made frames, all sizes and shapes—an excuse for frame hives, of course, but not fit for transferring to others if occasion should demand. None of them take bee-papers, that I can find, and are as ignorant of "patent gums" as they are of everything else.

The Ozarks of Missouri, especially this section, is a *good* place to keep bees—"more bees," and still more bees—for the pasture is grand, the fields are not encumbered, and if I can not instill a little life into the industry I surely can make money for myself.

Stone Co., Mo., April 10. N. T. GREEN.

Finally an Illinois Foul Brood Law.—We have received the following from Secretary Jas. A. Stone, which will certainly be read with great interest by every bee-keeper in Illinois, and possibly by all our other readers as well:

RT. 4, SPRINGFIELD, ILL., May 25, 1911.

EDITOR AMERICAN BEE JOURNAL—

Our enemies of the foul brood law have not only been defeated, but have been the cause of double defeat to themselves, and a great help in securing to us a better law than the one for which we first asked.

They made their threats that if the inspector destroyed their bees they would make him pay for them. *Now* we have a law that declares foul-broody bees a nuisance, and therefore have no property value; and if they want to collect on worthless property, they will have a good time, and end in defeat.

Our Foul Brood Bill was passed April 28, 1911, as we first asked for it, but the Governor refused to sign it because of several unconstitutional points found by the Attorney General, such as paying a State officer (inspector appointed by the Governor out of a fund given to a private corporation, etc.) So the Governor called our committee to meet with the chairmen of the Appropriations Committees of both Houses, and asked them to get the Bill through, that the Attorney General had drafted at a conference meeting with our committee on Monday, May 8, 1911. Within 15 minutes after the Governor placed our Bill in Mr. Shanahan's possession, it was offered in the House, and placed on 2d reading May 8th. An evidence of the influence of our kickers being entirely lost sight of, was the fact that Mr Shanahan, chairman of the Appropriations Committee, offered the Bill in the House (No. 670, and with the help of others pushed it through; and then Senator Hurburg, Chairman of the Appropriations Committee in the Senate, with others' help, pushed it through the Senate. All was done in the last two weeks of the session.

Our Appropriation Bill had passed the House, and was on the 3d reading in the Senate, at $2500, when the Foul Brood Bill went to the Governor. It was then amended to $1000 for the State Association, and $1500 placed in the Omnibus Bill for the salary of a foul brood inspector and deputies; and they so passed.

The bee-keepers of the State of Illinois are especially indebted to Gov. Chas. S. Deneen for his determination that we should have a good law, and to Assistant Attorney General Woodard for the interest he took in the same; then to Hon. Shanahan and Hon. Hurburg, assisted especially by Representatives Kerrick, Pervier, Ireland, and Chiperfield in the House, and to Senators Lish, Funk, Hearn, and others. In fact, after our committee had met the several committees of both Houses, and our bee-keeper friends had poured in their letters to all the members of the House and Senate (so far as we conferred with them), we failed to find any opposition to our bills. All seemed to be our friends and helpers.

Finally, to the bee-keepers: You have worked manfully and faithfully with your committees, and stood by us until we are ready to lay off our armor, having earned the right to boast if old King Ahab of Israel knew—I Kings 20 11: "Let not him that girdeth on his armor boast himself as he that taketh it off."

Now let the fellows who caused us to wear the armor for six long years four terms of the Legislature,, themselves put it on, and see how it feels. It will be heavier to them than it was to us, for we were in the *right*, while they are in the wrong, and none will show them any sympathy.

The Foul Brood Bill passed the Senate with but one dissenting voice, while the House voted 131 "for" to none against.

JAS. A. STONE,

Sec. Illinois State Bee-Keepers' Association.

The foregoing is simply a magnificent report of work well done. And to Messrs. Jas. A. Stone, C. P. Dadant, E. J. Baxter, Chas. Becker, A. L. Kildow, J. E. Pyles, and a few other bee-keepers, is due the honor of success, and the appreciation of all the bee-keepers of Illinois.

We regret that Mr. Stone's report could not have come earlier, so that we could have included in this June number some further comments, etc., that we wanted to use in connection with it. But what we have will keep until later. What is needed now is the heartiest and fullest co-operation of every bee-keeper in Illinois to aid the inspectors to clean up foul brood as rapidly as possible, before the disease "cleans out" bee-keeping in this State.

◆

New Jersey Summer Bee-Meeting

The New Jersey State Bee-Keepers' Association will hold their summer meeting Wednesday, June 28, 1911, at Mr. W. D. Robinson's apiary, at Spring Lake, Monmouth Co., N. J. The full program and arrangements are not completed yet, but it is planned to make the meeting especially interesting and instructive along the line of bee-diseases and their treatment. Other topics of interest will, of course, be presented. The State inspector of apiaries, Dr. John B. Smith, will be present and explain the recently enacted foul-brood law, plans of inspection, etc. It is also expected that the assistant inspector will have been secured by that time, and will be present.

It is desired that there be a goodly attendance, for the best success in carrying out the provisions of the recently enacted foul-brood law, and eradicating bee-diseases from the State depends upon the co-operation of the best bee-keepers of the State.

Spring Lake is easily accessible from most parts of the State. It can be reached from points on the C. R. R. of N. J.; the P. R. R.; the N. Y. & Long Branch R. R. It is near the large summer resorts of Long Branch, Asbury Park, Ocean Grove, Sea Girt, etc.

All New Jersey bee-keepers, and bee-keepers in surrounding territory, are invited to attend. Bee-keepers and manufacturers are invited to bring for exhibition purposes, bees in observation hives, or anything along the apiarian line. A full program will be mailed for the asking.

Pittstown, N. J. ALBERT G. HANN, *Sec.*

◆

Program for the National.—Your secretary believes that the average producer keeps his nose so close to the grindstone of production that he doesn't have time to learn the best selling system, and for that reason isn't getting all out of his product that he should. Believing this, I am anxious that the Minneapolis Convention Aug. 30 and 31 go on record as the best one ever held with reference to real business methods being discussed. In addition to this selling question, there is the all-important one of new laws for the National, and this should be of interest to every member.

I want every member to read carefully the following proposed program. Think it over, and then tell me by return mail what subjects you would like to cut out, and what ones added. Also be sure and tell me whom you would like to handle the different subjects. You see, I am going to ask *you* to help me to get up the program. I want to get something the members want, and I offer the one given below simply as a starter:

1. President's Address.
2. General Manager's Report.
3. Secretary's Report.
4. How can a National campaign be conducted against foul brood?
5. How to get State foul brood laws.
6. Shall the National be one separate association or an aggregation of smaller ones?
7. Is a National advertising campaign for selling honey practical?
8. A National campaign for developing markets and selling the honey crop.
9. The new Constitution and By-Laws.
10. Developing the home market.
11. A mail-order honey-trade—how conducted?
12. Question-box.

E. B. TYRRELL, *Sec.*

230 Woodland Ave., Detroit, Mich.

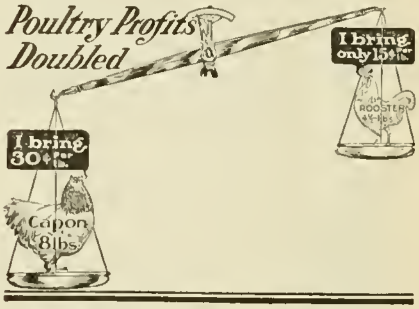
◆

The Fruit-Growers' Guide-Book. — This book, by E. H. Favor, is designed as a means of assisting many persons who are undertaking the growing of fruit on a commercial scale, yet who feel the need of specific information on many orcharding problems. It is of interest to both the amateur and professional fruit-grower, and is written in a clear, easy style. It is of especial interest as it contains some of the latest information on the important subjects of orchard heating and of spraying peaches for the control of brown rot. In addition it tells of the big profits in fruit-growing, the most desirable sites and locations for orchards; how to plant, prune, spray and pack the important orchard fruits. It contains in condensed form the cream of the important facts of orcharding; it has 285 pages, and is splendidly illustrated. The price, postpaid, is $1.00, or with the American Bee Journal one year—both for $1.75. Send all orders to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

Is Caponizing Profitable?—Do you raise capons? If not, why not?

This is the season of the year to take up this proposition, and so get in line for your share of capon profits.

Capons are easy to make, easy to raise, and easy to sell for the high money. There may not be a market for old roosters, but there is always a market for capons, and at figures that will do you good. If your stock is of the ordinary barn-yard variety you can make your surplus roosters—all legs and craw—into silent and succulent capons. If you raise thoroughbreds it pays to make the culls into capons, and thus avoid cheapening your stock.


Poultry Profits Doubled
I bring only 15¢ lb.
Rooster 4½ lbs
I bring 30¢ lb.
Capon 8 lbs.

If you will send a postal to Geo. P. Pilling & Son Co., 23d and Arch Sts., Philadelphia, Pa., they will send you a book telling you how to make, care for, and market capons. Write them to-day, and please mention the American Bee Journal.

This Man

Will consider it a privilege if you will let him make you an estimate on a bill of goods. Send him a list of what you want, and he will quote prices with discounts.

Goods can be shipped from Fremont, Mich. CHICAGO, ILL., or Medina, Ohio—whichever place will cost the less freight; or you can have the estimate to be delivered at your station, freight prepaid.

He has the largest and most complete stock in his 25 years as a supply-dealer, and can ship promptly

All Root's Goods at their Prices, with Season's Discount.

BEES, QUEEN'S, and Three-Frame Nuclei a specialty; Hilton's Superior Strain, (See testimonials)

BEESWAX wanted for Cash or Exchange

Send for 50-page Catalog to - 6A3

George E. Hilton, Fremont, Mich.

Please mention Am. Bee Journal when writing.

QUEENS of MOORE'S STRAIN of ITALIANS

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

My Queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES:—Untested Queens, $1.00 each; six, $5.00; doz., $9.00. Select Untested, $1.25 each; six, $6.00; doz., $11.90. Safe arrival and satisfaction guaranteed. Descriptive Circular Free. Address, 6Atf

J. P. Moore, Queen-Breeder,
Rt. 1., Morgan, Ky.

Please mention Am. Bee Journal when writing.

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for July to Nov.

One Untes. Queen...	$0.75
" Tested " ..	1.10
" Select Tes. " ..	1.30
" Breeder Queen..	1.85
" Comb Nucleus—no queen........	.80

Safe arrival guaranteed. For prices on larger quantities, and description of each grade of Queens, send for for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

Please mention Am. Bee Journal when writing.

I Breed Golden Queens

By the best known method, selected of the Best honey-gatherers, and for Beauty and Size of bees, with the care that the best of apiary-men can give, which makes a fine Queen in quality.

Price, Untested, $1.00 each.

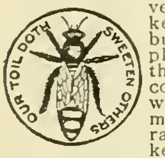
I guarantee satisfaction or your money returned, and safe arrival. 6Atf

M. Bates, Rt. 4, Greenville, Ala.

Please mention Am. Bee Journal when writing.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.


OUR TOIL DOTH SWEETEN OTHERS

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.
- CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

"How to Keep Bees," —BY— A. Botsford Comstock.

A simple book, written in a clear, every-day language, is much to be preferred, even if it does not treat of quite so many little details, which interest only the professional bee-keeper. Such is "How to Keep Bees," written by a gifted author, who made a start in bee-keeping three different times, thus being afforded the opportunity of personally finding out the difficulties and trials that beset the beginner with bees. It is a book written by an amateur to amateurs, so eminently readable, that any one interested in the subject can sit down and devour it clear through, as though it were a modern novel. The print is large, and typographically as well as rhetorically, it is the peer of any such book now on the market. It is bound in cloth, and contains 228 pages.

There are 20 chapters in the book as follows:

1. Why Keep Bees?
2. How to Begin Bee-Keeping.
3. The Location and Arrangement of the Apiary
4. The Inhabitants of the Hive.
5. The Industries of the Hive.
6. The Swarming of Bees.
7. How to Keep from Keeping Too Many Bees.
8. The Hive and How to Handle It.
9. Details Concerning Honey.
10. Extracted Honey.
11. Points About Beeswax.
12. Feeding Bees.
13. How to Winter Bees.
14. Rearing and Introducing Queens.
15. Robbing in the Apiary.
16. The Enemies and Diseases of Bees.
17. The Anatomy of the Honey-Bee.
18. The Interrelation of Bees and Plants.
19. Bee-Keepers and Bee-Keeping.
20. Bee-Hunting.

There is also a bibliography and index. From a beginner's standpoint it is a complete treatise on bees, and we can not do better than recommend it. In fact, it should find a place in every bee-keeper's library.

Our Offers of this Interesting Book.

We mail this book for $1.10; or we club it with the American Bee Journal one year—both for $1.75; or, we will mail it *free* as a premium for sending us 3 new subscriptions to the American Bee Journal for one year with $3.00 to pay for the subscriptions. Address,

GEORGE W. YORK & CO., 117 No. Jefferson St., CHICAGO, Ill.

ADVANCED BEE-VEIL

—POSTPAID—

All Cotton 50c; Silk Face, 60c; All Silk, 90c.

Made of Imported French Tulle Veiling; cord arrangement which permits wearer to handle bees in shirt-sleeves with no chance of bees crawling up and under veil. With a hat of fair-size brim to carry veil away from face, you are as secure from stings, movements as free and unrestricted, and as cool and comfortable as you would be at a summer resort.

Please send me two more bee-veils. I have tried all kinds, and yours are best of all.—N. E. FRANCE. Platteville, Wis.

Editorial Comment in Bee-Keepers' Review:—The Advanced Bee-Veil is something I have worn with great comfort the past few weeks. The peculiar feature of the veil is, the edges are held down firmly on the shoulders away from the neck. This does away with all chance of stings, and the hot, suffocating, uncomfortable feeling found in other veils that are tucked in close about the neck.—W. Z. HUTCHINSON.

A. G. Woodman Co., Grand Rapids, Mich.

Please mention Am. Bee Journal when writing.

A Few Dollars Invested on Easy Terms in a

Twin Falls, Idaho, Orchard

will insure

An Income For Life

sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

A Source of REVENUE

Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

By calling at our office, or writing us, you can obtain full information.

Twin Falls Co-operative Orchard Co.
881 Stock Exchange Bldg., Chicago, Ill.

Bee Journal "Could Hardly Be Better"

BRO. YORK:—Both the outside and the inside of the American Bee Journal could hardly be better. The covers are artistic and attractive, and the articles and editorials full of information. The whole bee-keeping fraternity is indebted to you for providing such a storehouse of information, and any one interested in bee-keeping can not well do without it. May the coming year—1911—bring you and your gentle readers much happiness and prosperity.

(DR.) FREDERICK WEBLEY.
Santa Cruz, Cal., Dec. 15, 1910.

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb. honey-kegs at 50c each f. o.b. factory. N. L. Stevens, Moravia, N. Y.

FOR SALE—Extracting and Brood Combs; wired. No disease. Address,
Lock Box 543, Elmhurst, Ill.

QUEENS from my EDUCATED strain of Golden Italians. $3.00 to $100. 5A4t
Henry W. Britton, Stoughton, Mass.

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey.
5Atf Ogden Bee & Honey Co., Ogden Utah.

FINE Golden Italian Queens—Tested, $1.00; Select Tested, $1.25; Untested, 60c; dozen $7.
6A2 D. T. Gaster, Rt. 2, Randleman, N. C.

FOR SALE CHEAP.—60 good second-hand 5-gallon cans, 2 in a box. Write to C. Becker, Pleasant Plains, Ill. 4A3t

ITALIAN Untested Queens, 75 cents; Tested, $1.25. Breeders, $5.00 each. E. M. Collyer,
8A12t 75 Broadway, Ossining, N. Y.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address.
12Atf T. F. Bingham, Alma, Mich.

WANTED—A few more 4 and 5 year old Queens; also bees.
C. O. Smith, 5533 Cornell Ave., Chicago, Ill.

FOR SALE—300 cases second-hand 5-gallon cans in good condition; single cases, 35 cts.; 5 cases or more, 30 cts. per case.
6Atf J. E. Crane & Son, Middlebury, Vt.

TWO-FRAME NUCLEI with Golden or Red Clover Queen, $1.50. Safe arrival guaranteed. Rosedale Apiaries. 5A2t
J. B. Marshall, Big Bend, La.

FOR SALE OR EXCHANGE—Shakspeare's Complete Works. Good as new. Still in original shipping-box. 13 volumes.
P. O. Box 125, Halls, Tenn.

Improved golden-yellow Italian queens for 1911. Beautiful, hustling, gentle workers. Send for price list to E. E. Lawrence.
4A3t Lock Box 28, Doniphan, Mo.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, $1; Tested $1.50; Select Tes. $2; Breeders, $5 to $10
8A12t J. B. Brockwell, Bradley's Store, Va.

YOU MAY ORDER Root's Bee Supplies from any catalog published by them, and send me the order. I'll get it to you in quick time. Or call yourself on Geo. S. Graffam, Valley Ave., Bangor, Maine.

FOR SALE—In Antrim Co., Mich., 33¾ acres bee and fruit farm; good honey location; a home market for fruit and honey. Will sell 60 colonies of bees with farm.
H. E. Brown, Rt. 4, Charlevoix, Mich.

ITALIAN QUEENS from imported and home-bred stock—the best in the world, 75c each; 6, $4.00; 12, $7.50. Tested, $1.25 each. Safe arrival guaranteed. N. Forehand.
5Atf Ft. Deposit, Ala.

SECOND-HAND CANS—Good ones, two 5-gal. in a box 5 boxes at 40 cts. a box; 10 boxes at 35 cts. a box, or 20 boxes at 30 cts. a box. Address. George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

ITALIAN QUEENS, good as the best; untested, 75c; tested, $1.00. Shipments begin April 1st for Bees by the Pound and Nuclei. Write for prices. C. B. Bankston,
5Atf Buffalo, Leon Co., Texas.

GOLDEN QUEENS—very gentle, very hardy, and great surplus gatherers. Untested, five and six band, $1.00; select tested, $3.00; also nuclei and full colonies. Send for circular and price list to Geo. M. Steele,
5A3 30 So. 40th St., Philadelphia, Pa.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2Atf

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal.
117 N. Jefferson St., Chicago, Ill.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

BEESWAX WANTED.—We are paying 30 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ill.

NATIONAL LETTER-HEADS.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business-like. Every member of the National ought to use these letter-heads. They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at these **prepaid** prices, which are "cash with order." 250 sheets, $1.30; 500 sheets, $2.00; 1000 sheets, $3.75. All orders are to be sent to Mr. France.

Poultry

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

White and Brown Leghorn Eggs and Chicks. 5 other breeds. Prices right. Safe arrival guaranteed. Bred for utility. Catalog free.
4A3t Deroy Taylor Lyons, N. Y.

ROSE COMB Rhode Island Reds, Red Cloud strain; beautiful birds, raised on free range. Eggs for hatching. Write for prices.
5A2t M. L. Main, Grand Valley, Pa.

UTILITY EGGS—S. C. W. Leghorns, Barred Rocks—$4.00 per 100. Also Pekin or Runner Ducks, $1.00 per 13. Circular free. 4A3t
Premium Poultry Farm, Box 15, LaHarpe, Ill.

CHOICE STOCK.—Strictly pure-bred stock of White Plymouth Rocks, R. C. Rhode Island Reds, and Spangled Hamburgers, bred for laying as well as for show purposes. The White Rocks, and the Reds, are the best all-the-year-around layers, and are heavy and thrifty. The Hamburgers are as pretty chickens as ever were introduced in this country, and are good layers. Eggs, 75c per sitting of 15, of the above breeds. You can't buy better stock at three times my price.
5A2t Herman Fajen, Stover, Mo.

Honey to Sell or Wanted

FOR SALE.—Choice light-amber extracted honey—thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases.

In the spring of 1899, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year) he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

Prices before July	1	6	12
Select queens	$1 00	$ 5 00	$ 9 00
Tested queens	1 50	8 00	15 00
Select tested queens	2 00	10 00	18 00
Breeders	4 00	....	....
Golden five-band breeders	6 00	....	....
Two-comb nuclei, no queen	2 50	14 00	25 00
Three-comb nuc., no queen	3 50	20 00	35 00
Full colonies on 8 frames	6 00	30 00	....

Add price of whatever grade of queen is wanted with nuclei and colonies; nuclei and colonies, if shipped before June 1st, add ¼, or 25%, extra to above price. No order too large, and none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5Atf

QUIRIN-THE-QUEEN-BREEDER,
BELLEVUE, OHIO

Swarming Prevented

A new method, just published, worthy of investigation by all progressive bee-keepers. Advantages clamed for the plan of treatment. No clipping of queens' wings—no caging of queens—not even necessary to look for queens—no pinching of queen-cells—no shook swarming—no dividing—no extra expense connected with the plan—plan simple and easy to carry out—satisfactory honey crop—saves time and labor. Send to

DR. H JONES, PRESTON, MINNESOTA

for his booklet describing his method of treatment. Price 25 cents.

Please mention Am. Bee Journal when writing.

MILLER'S STRAIN

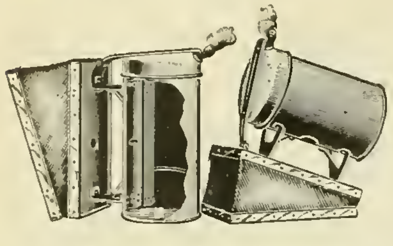
Red Clover Italian Queens

Bred from my superior breeder for business; gentle; no better hustlers; bees just roll honey in; three-banded; northern bred, hardy and vigorous; winter well; not inclined to swarm; bred from best leather-colored, long-tongued, red-clover strains. Untested, $1.00; six, $5.00; dozen, $9.00. Select untested, $1.25; six, $6.00; dozen, $11.00. Circular free. Satisfaction guaranteed. Isaac F. Miller, of Reynoldsville, Pa., a queen-specialist, is my apiarist and manager, who has been before you quite a number of years.

J. S. Miller, Rt. 2, Brookville, Pa.

Please mention Am. Bee Journal when writing.

Gold Medals St. Louis Exposition, 1904.
Jamestown Centennial, 1907.



Danzenbaker 20th Century Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate**, forcing air **both ways**, makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest net capacity** of all smokers, selling at one dollar $1.00. We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail	$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail	1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail	1.00
With American Bee Journal one year, about 400 pages, by mail	1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,
68-70 Woodside Lane, NORFOLK, VA.

Queens That 'Are Better'
Italians and Banats

Untested, 75c each; $8.00 per dozen.
Tested, $1.25 each; $12.00 per dozen.
Select Breeders from full colonies: $3.00 each.

I also mate Italians with Banat drones from my honey-yards; these I can furnish at above prices.

All are guaranteed pure, and free from disease.

Write for wholesale prices of Bees, Nuclei and Full Colonies; also references. 4A6t

J. A. Simmons, Sabinal, Tex.

THE FAMOUS
Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
Tested— each, $1.25; per dozen, 12.00

**If you wish to swell your means,
Just try my Famous Texas Queens**

GRANT ANDERSON,
2Atf **San Benito, Texas.**

Please mention Am. Bee Journal when writing.

Queens Ready Now!
Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3 Band	Untested	Queens,	1,	$ 0.75;	6,	$ 4.20
3 "	Tested	"	1,	1.00;	6,	5.70
3 "	Breeder	"	1,	5.00;	6,	25.00
5 "	Untested	"	1,	1.00;	6,	5.70
5 "	Tested	"	1,	1.50;	6,	8.70
5 "	Breeder	"	1	10.00;	6,	50.00
3 "	Nuclei 1-fr.	with	Unt.	Queen		1.75
3 "	" 2-fr.	"	"	"		2.25
3 "	" 1-fr.	"	Test.	"		2.00
3 "	" 2-fr.	"	"	"		2.50
3 "	Full Colony	"	Unt.	"		4.75
3 "	" "	"	Test.	"		5.00
5 "	Nuclei 1-fr.	"	Unt.	"		2.00
5 "	" 2-fr.	"	"	"		3.00
5 "	" 1-fr.	"	Test.	"		2.50
5 "	" 2-fr.	"	"	"		3.50
5 "	Full Colony	"	Unt.	"		8.00
5 "	" "	"	Test.	"		0.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,
R. F. D. 3 LITTLE ROCK, ARK.

LINE-BRED ITALIANS

My bees being line-bred are very strong in reproductive qualities, and are powerful demonstrators of what can be accomplished by years of careful line-breeding and selection.

Extra-Choice Breeding Queens a Specialty.

The fact that other queen-breeders send to me for fine breeding queens is proof that my stock is O. K. Read what an ex-queen breeder of Lincoln, Nebr., says in part:

LINCOLN, NEBR., Aug. 6, 1910.—You are at liberty to refer to me at any time, and I will cheerfully certify to the quality of your stock and your conscientiousness as a breeder.
Yours, etc.,
FRANK G. ODELL.

I positively send out nothing but vigorous, well-developed queens; or, in other words, the kind that produce.

Untested queens, $1.00 each, or six $5.00; select untested, $1.25 each, or six, $6.00; tested, $2.00 each. Queens ready to send after June 1st. Send for instructive circular.

Walter M. Parrish, Lawrence, Kan.

P. S.—I can furnish either 3-Band or Golden Italian Queens; also Banat Queens mated to Golden drones.

Marshfield Sections
Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

QUEENS
From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt. 1, Wapato, Wash.

Please mention Am. Bee Journal when writing.

SAVE
Your Queenless Colonies

Introduce a vigorous Tested Queen. We can supply them

By Return Mail for $1.00 Each.

Queens reared last fall from our well-known strain of Italians, and every Queen guaranteed.

Send for Price-List. 4Atf

J. W. K. SHAW & CO.,
LOREAUVILLE, Iberia Parish, LA.

Please mention Am. Bee Journal when writing.

Lone Star Apiaries Co.
Italian Queens

From Imported Mothers.

PRICES

One, $1.25; six, $7.00; 12 for $12. Breeders, $3.00.

Another Queen or your money back if not satisfied.

Write for descriptive Circular. 4Atf

LONE STAR APIARIES CO.
BIG FOOT, TEXAS.

Please mention Am. Bee Journal when writing.

Carniolan Queens!

By crossing the most desirable strains I am improving this race of bees each year. Have tried Queens from nearly all the queen-rearers that advertise in Leipziger Bienen-Zeitung, and other foreign publications. These improved Carniolans are hardy and gentle, and not inclined to swarm unless crowded. Don't take my word for it. Buy half a dozen or so, and see how you like them. Prices are as follows:

Before July 1st	1	6	12
Untested	$1.00	$5.50	$10.00
Tested	1.25	0.75	12.75
After July 1st	**1**	**6**	**12**
Untested	$ 75	$4.25	$ 8.00
Tested	1.00	5.50	10.00

Wm. KERNAN,
Rt. 2, DUSHORE, PA.

Please mention Am. Bee Journal when writing.

MARSHFIELD GOODS

BEE KEEPERS :—

We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.** Our Catalog is free for the asking.

Marshfield Mfg. Co., **Marshfield, Wis.**

Southern Bee-keepers !

When your HONEY is ready for market, write us. Will buy outright, or handle on commission. Send samples with full particulars.

—:o:—

We are paying 30c per pound, net, f. o. b. New York for Choice Yellow

◈ Beeswax ◈

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

BINGHAM
CLEAN
BEE SMOKER
Pat'd 1878, '92, '92 & 1903

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, " Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.

Patented, May 20, 1879. **BEST ON EARTH.**

Italian Queens by Return Mail.

Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.25; Breeders, $3.00. Others, 25c extra Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Complete Alexander Hive, 9 F., 2-story, double cover, $2.00; Alex Veil, by mail, 45c. Gleanings or Bee-Keepers' Review, to new subscribers, 75c a year. Langstroth by mail $1.00. Italian Bees, $10.00 a colony, 8-F. with super. Supplies and Honey. Send for Catalog Free School—Saturday afternoon classes.

Walter C. Morris, 74 Cortlandt St., NEW YORK, N. Y.

Apiary—Yonkers, N. Y.

Please mention Am. Bee Journal when writing.

ITALIAN Queens Direct from ITALY

— Extensive Apiaries —

E. PENNA, BOLOGNA, ITALY

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are pure and rightly mated. One selected fertile Queen, 90c.; two Queens, $1.60; six Queens, $1.50; one Breeding Queen, $2.00. Cash with orders. Queens postpaid. *The safe arrival is NOT guaranteed.*

Please mention Am. Bee Journal when writing.

MOTT'S
Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, $1.00 each; $9.00 per doz. Natural Golden, from Imported Italian Stock, $1.10 each; $10 per doz. Reduced rates July 1st.

Nuclei and Bees by Pound.

List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for $1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

Cannot Surpass Them!

Famous Golden & Red Clover

Queens. Untested, 50 cts.; Select Untested, 75c; Tested, $1.00.

NUCLEI, $1.00 per Frame.

Evansville Bee & Honey Co.,
5A3t EVANSVILLE, IND.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed !

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.
Cor. Nolan & Cherry Sts.,
4Atf **San Antonio, Texas.**

Please mention Am. Bee Journal when writing.

FOR SALE

Untested Golden Italian Queens 50 cts. each
6A3 **J. F. Michael, Rt. 1, Winchester, Ind.**

Please mention Am. Bee Journal when writing.

"If goods are wanted quick, send to Pouder"
(Established 1889)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Walter S. Pouder, Indianapolis, Ind. **859 Massachusetts Ave.**

CAPON TOOLS

CAPONS bring the largest profits —100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use

PILLING CAPONIZING SETS

Postpaid $2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make *Poultry Marker 25c. Gape Worm Extractor 25c French Killing Knife 50c. Capon Book Free.*

G. P. Pilling & Son Co., Philadelphia, Pa.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.
4Atf PROVIDENCE, R. I.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc.

☞ The oldest Bee-Supply Store in the East. 2Atf

Root Section Honey-Boxes

Concerning the importance of buying the best, and our ability to furnish sections of a superior quality to bee-keepers everywhere.

Our Section Making Department we believe to be the best equipped in the world. We claim superiority of workmanship in several respects, especially in smoothness of the dovetailing and the ends of the sections. They are polished on both sides in double-surface sanding machines, and are therefore uniform in thickness. Too much importance can not be attached to putting up comb honey in sections of uniform quality, and experienced honey-producers agree that **ROOT SECTIONS** of either A or B grades are a most essential investment.

Price-List of Sections

Root Sections come in several standard styles and sizes—with or without bee-way as follows:

4¼x4¼ BEEWAY SECTIONS.
2 inch, 1 15-16, 1⅞, 1¾ or 7-to-foot wide.

We send 1⅞ style 2 beeway when your order does not specify style or width wanted.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 50	5 00

PLAIN, OR NO-BEEWAY SECTIONS.
4¼x4¼x1½, 1⅝, or 1⅜; 4x5x1⅜ or 1½; or 3⅝x5x1½.

We send 4¼x1½ plain, or what will fit other items in your order, if you do not specify.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 25	4 75

One hundred sections weigh about 7 lbs.

Better Order a supply of **Root's Weed Process Foundation** with your sections. 1910 sales on this very superior product totaled nearly 200,000 lbs. Samples with full information and prices may be had upon request.

Remember—We carry complete stocks at this branch and guarantee quick delivery on sections in lots of 100 to 1,000,000, and on foundation and other supplies in any quantity. You ought to know the complete **ROOT LINE** for every appliance for successful bee-keeping. Get the new catalog—brimful of the most modern supplies priced at rock bottom figures for goods of the quality we have manufactured for more than 40 years.

THE A. I. ROOT CO., 213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr. (JEFFREY BUILDING) Telephone 1484 North.

Special Prices for June

Only in Lots of 5 or more, in the Flat, delivered in Minneapolis.

	8-fr.	10-fr.
1-story Dovetailed Hives with Hoffman Frames, Division-Board, Reversible Bottom, Flat tin joint or Higginsville Cover, each	$1.10	$1.20
Above, with Colorado Cover, each	1.20	1.30
Above, with Metal top, double Cover, each	1.25	1.35
Above, with 9½-inch Telescope, with Metal top, double Cover, each	1.50	1.60
Supers for any style Section, with Section-Holders, Separators, Follower and Springs, each	.40	.45
9½-inch deep Extracting Supers with Frames	.65	.70

No Foundation or Sections included at above prices.
Do not delay in sending your order.
If goods are not as represented, will refund your money.
Write for prices in large quantities.

Minnesota Bee-Supply Co.

Nicollet Island MINNEAPOLIS, MINN.

Please mention Am. Bee Journal when writing.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.) **Send for Catalog.**

148 West Superior St., CHICAGO, ILL. Enough said!

Please mention Am. Bee Journal when writing.

We are first hands for choice California-grown

YELLOW BLOSSOM

MELILOTUS SEED

(Sweet Clover)

For introductory purposes, and that bee-men may test this valuable California product, we offer to deliver at your nearest express office, all charges prepaid by us, one 5-pound package of hulled seed will sow ⅛ acre) for $1.25; two packages, $2.25; five packages, $5.00.

Samples mailed, and larger quantities quoted.

The seed is from our own harvest, is fully matured, free from noxious weed seeds, and possesses high germinating qualities.

If you wish other **California Grown Seeds,** write us. 5Atf

MERCANTILE & WAREHOUSE CO.,
141 Moss Ave., Oakland, Cal.

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SEND FOR FREE

ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1⅜ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,
160 Newton Ave., N.,
3A6t **MINNEAPOLIS, MINN.**

Golden Untested Queens

Balance of season, 75c each. Safe arrival.

R. V. COX,
5Atf Rt. 4, GREENVILLE, ALA.

QUEENS

Bees by the Pound and Full Colonies

Hardy Golden and Three-banded Italians. Hustlers for honey, and are gentle. No disease.
Untested queens, $1.00 each, $5.00 for six; tested, $1.50 each, $8.00 for six; select tested, $2.00. One-frame nucleus, $2.00; two-frame, $3.00; three-frame, $4.25; ½ lb. bees, $1.75 (add price of queen wanted); full colonies, $7.00.

VIRGIL SIRES,
516 North 8th St.,
NORTH YAKIMA, WASH.

Please mention Am. Bee Journal when writing.

Latest Improved Supplies, Incubators & Brooders

Catalogs Free—state which.

Send 25 cts. for Illustrated Bee-book for beginners—"A gem." Dis. for early orders.

J. W. Rouse, Mexico, Mo.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for— 1Atf

"Falconer"

—Write for Catalog.

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

The Swarthmore Apiaries

are now shipping their well-known

PEDIGREED GOLDEN QUEENS

The Swarthmore Apiaries,
6A4 **Swarthmore, Pennsylvania.**

Please mention Am. Bee Journal when writing.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,
Berclair, Goliad Co., Tex.

Wanted —Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. LYONS,
8A12t Rt. 5, Box 88, Ft. Collins, Colo.

Missouri-Bred Italian Queens —These queens are bred for results, having all the good qualities and will "show you" by filling the supers with honey. Prices right. Free Circular.
4A1y L. E. ALTWEIN, St. Joseph, Mo.

Comb Foundation
BEE-KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of
Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

Mr. Bee-Man

We carry in stock the well-known
Lewis Beeware, Bingham Smokers, Dadant's Foundation, or Anything the Bee-Keeper may need. **Catalog Free.**
Beeswax Wanted.

The C. M. Scott Co., 1004 E. Wash. St. Indianapolis, Ind.

Bee-Keeping and Poultry-Raising

Combined, can be made very profitable. A knowledge of the subject, which embraces all the latest and up-to-date information and interesting reading, can be found by reading the American Bee Journal and

The National Poultry Journal

which is published monthly; illustrates and describes how many successful poultry keepers make a good profit from their poultry. Subscription price, 50c the year, or

Four Months' Trial for 10c.

Address,
The National Poultry Journal, Business Office, Elkton, Va.

The Billion Dollar Hen

Yes, that is just where the chicken of today stands, and great fortunes are being made each year with only a few hens and a small piece of idle ground.

But You Must Know How.

The American Hen Magazine is the "A B C and X Y Z in Poultry." It is a poultry magazine with a regular department devoted to Fruit an Bees, and gives the Secrets of Poultrydom in plain language.

Price 25 cents a year. Descriptive Circular Free.

American Hen Magazine, Council Bluffs, Iowa.

Increase Your Honey Crop

By introducing some of OUR **Famous Honey-Queens.** Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.** Will sell Queens the following prices, May to Nov. Untested Queen, $1.00; 6 for $5.50. Tested, $1.50; 6, $8.50. BREEDERS, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

Early Queens and Late Queens

Bred from pure 3 and 5 banded and Golden Italians. All queens are reared in strong colonies and mated in four-frame nuclei. All orders filled promptly.

Untested....$1.00; six, $4.50; twelve, $ 8.00
Tested....... 1.50; " 7.50; " 13.50

Breeders, $3.00. Three-frame nuclei, $3.00, with price of queen wanted added. Discounts for quantity. Send all Money Orders to Apalachicola, Fla. 4A6t

A. B. MARCHANT, Sumatra, Fla.

P. S.—Write me for a good proposition on bee-keeping, to the right party.

J. E. Hand
The Veteran Queen-Specialist

WILL begin the season of 1911 with greatly improved facilities for rearing the choicest queens. . . . Our queens are not only large, vigorous, handsome, and prolific, but by reason of a judicious system of line breeding they have the power to transmit inherent tendencies of a highly desirable nature, such as hardiness, gentleness, and industry, as well as uniformity of marking, which makes them especially valuable as breeders. Every queen is warranted to produce uniformly marked bees of superior honey-gathering qualities. Don't take chances. Get the real thing. Warranted, $1.00; six, $5.00; dozen, $9.00. Tested, $1.25. Breeders, $5.00. Half pound of bees, no queen, $1.00. Three (L.) frame nucleus, no queen, $3.25. No selection, therefore no culls, and a square deal for all. Valuable information free for your address.

J. E. HAND,
Birmingham, Ohio

Superior Golden Queens
Standard Breed

That have a record of 256 pounds of honey per colony. Gentle to handle, and Beautiful in Color; as hardy as any Strain or Race of Bees, and almost Non-Swarming. We handle them without gloves or veil, and but little smoke.

Untested, $1.25; 6 for $6.00; 12 for $10.00.
No disease.

If you want to know more about them, write us. All tested Queens sold until in June, then we will have them.

T. S. HALL,
Talking Rock, Pickens Co., Ga.

HONEY AND BEESWAX

CHICAGO, May 23.—There is practically no trade in honey of any kind at present, the extracted grades being exhausted that are suitable for table purposes, as also the choice to fancy grades of comb. A little remnant of amber remains. Prices are difficult to determine in the absence of supply. Beeswax is steady at 32c for clean and of good color. R. A. BURNETT & CO.

INDIANAPOLIS, May 23.—The local supply of honey in the stores is almost exhausted. Indications are that the demand for new crop will be good, especially for best grades. There can be no established scale of prices until crop reports come in. Beeswax is in excellent demand, and producers are being paid 29c cash, or 31c in trade.
WALTER S. POUDER.

CINCINNATI, May 23.—The market on comb honey is about exhausted. There is as yet no new white extracted honey arrived, and it is hard to tell what new honey will bring. We are offering water-white honey put up in 60-lb. cans at 10c a pound, but look for lower prices for the coming season. Beeswax is in good demand at $33 per 100 pounds.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

CINCINNATI, May 23.—The public is now waiting for new honey, consequently the demand for what is on the market is very slow. Comb honey is all cleaned up, and we are looking forward to a good demand for new honey. It will be on the market within the next two weeks. We are still selling the dark amber honey in barrels from 6@7c, according to quality and quantity purchased; table honey from 8@10c in 60-lb. cans, two in a box. We are paying for strictly choice bright yellow beeswax 30c a pound, or 33c in trade. THE FRED W. MUTH CO.

KANSAS CITY, MO., May 23.—The supply of both comb and extracted honey is very light, and the demand is light. We quote: No. 1 white comb, 24-section cases, per case, $3.25; amber, No. 2, $2.75@$3.00. Extracted, white, per lb., 8½@9c; amber, 7@7½c. Beeswax, 25@28c. C. C. CLEMONS PRODUCE CO.

NEW YORK, May 23.—We have nothing new to report, conditions remaining about the same all along the line. We have no new crop yet from the South, but expect to receive same within the next two or three weeks. Beeswax is quiet at from 20@31c per pound. HILDRETH & SEGELKEN.

BOSTON, May 24.—Fancy and No. 1 white comb honey, 14@15c. Fancy white extracted, 11@12c. Beeswax, 30c. BLAKE,-LEE CO.

ZANESVILLE, OHIO, May 24.—The demand for honey seems to be about normal. There are no offerings now of last season's crop, and it is yet too early for the appearance of this season's yield of clover, which is what this market generally demands. Wholesale prices on best grades of comb, 17@18c; extracted, 11@12c.

Producers are being paid for beeswax 28c cash, or 30@31c in exchange for merchandise.
EDMUND W. PEIRCE.

DENVER, May 24.—With the coming in of fresh fruit the demand for honey slackens. We make the following jobbing quotations No. 1 white comb honey, per case of 24 sections, $3.15; No. 1 light amber, $2.03; No. 2, $2.70; partly candied, $2.40. White extracted, 0@10c per lb.; light amber, 8¼@9c. We have no amber extracted, and are in the market for some. For clean yellow beeswax we pay 20c cash, or 28c in trade.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

Langstroth on the Honey-Bee

Revised by Dadant. Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. Bound in substantial cloth, and has nearly 600 pages. Revised by that large, practical bee-keeper, so well known to all bee-dom—Mr. C. P. Dadant. Each topic is clearly and thoroughly explained, so that by following the instructions of this book one can not fail to be wonderfully helped on the way to success with bees.

We mail the book for $1.20, or club it with the American Bee Journal for one year—both for $2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

GEORGE W. YORK & CO.
CHICAGO, ILL.

All Roads Lead to Cincinnati

"Deal with Weber & Co. at the Service Center"

The supplies you have on hand are worth many times as much to you as those you must order and wait for when the honey-flow is on. We know how busy you are in making final preparations for the big year we all expect; but try not to overlook the importance of getting your orders for sections, foundation, extra hives, supers, etc., in RIGHT NOW. You will be pleased with our QUICK DELIVERIES and with the quality, and we will give your order our best possible attention, no matter when it comes; but we urge you to get in a good stock of sections and foundation NOW. Let us tell you about these goods.

SECTIONS

We handle the best grade of sections made. If you want a hundred or ten thousand, or a hundred thousand, we can fill your order promptly with goods we will guarantee to please. You may judge of the popularity of the sections we sell when we tell you that the manufacturers make upward of twenty-five million of them every season.

FOUNDATION

There is nothing more important to the up-to-date bee-keeper than to have foundation just when he needs it, and of the best quality. We sell nothing but Root's Weed-process Foundation, the recognized standard of the world. The bees appreciate the good points of this foundation, and every bee-keeper knows that it is the best. All grades and sizes constantly on hand. A pound or a ton, just as you like.

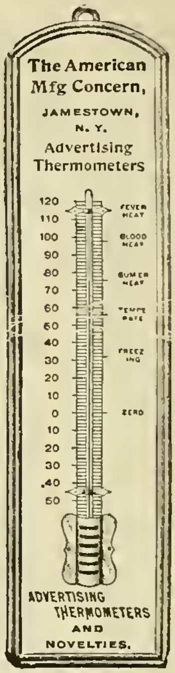
There are other items of interest too numerous to mention. We can furnish anything you need in the bee-keepers' supply line, and get it to you so promptly that the goods will reach you just when you need them most. No order is too small for our attention, and none so large that we can not handle it to *your* satisfaction. Send US your hurry orders and allow us to demonstrate what we can do for you. Catalog on request.

Poultry Supplies A special catalog of these Goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

"Falcon" CHICAGO HOUSE

The ONLY Bee-Supply House in the business section of Chicago.



TIME is money. We can save you time from our centrally located House. Our close proximity to all the railroads puts us in pre-eminent position to give you **fast service.** Chicago trains honey-comb the whole surrounding territory. **Order "falcon" Bee-Supplies This Year.**

Let us prove to you their superiority, not only in workmanship but material as well. Every part fits so well, it is a pleasure to assemble them. We have a full stock of everything for the bee-keeper—Hives, Supers, Sections, Foundation, Smokers, Extractors, Shipping-Cases, etc.

If you come to Chicago, call at our office. Our warehouse is immediately convenient, and you will take pleasure in looking over our nice, clean stock, fresh from the **"falcon"** saws. Mr. George W. York, editor of the American Bee Journal, is our office manager. and it is a treat to talk bees to one so thoroughly conversant with the subject and the needs of the bee-keeper.

DON'T FORGET THE PLACE—

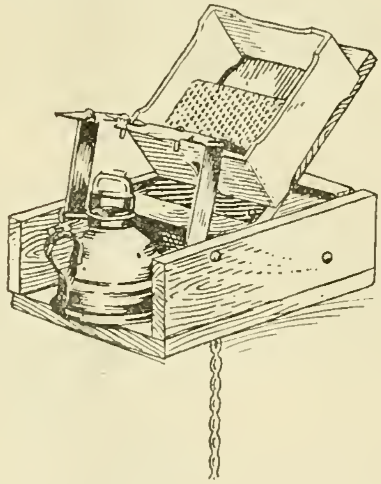
W. T. FALCONER MFG. CO.
117 North Jefferson St.,
The next street to the New Northwestern Depot, CHICAGO, ILL.

Dewey Foundation Fastener

One of Many

PUYALLUP, WASH., April 10, 1911.
W. T. FALCONER MFG. CO., Chicago, Ill.
Dear Sirs:—Will you please forward me samples of "Falcon" foundation? . . I have one of your Dewey Foundation Fasteners which I ordered from your New York house, and would not part with same for $10 if I could not have another like it. They work as easy and perfect as a clock.
Yours for success, P. A. NORMAN.

Our three new 1911 carload distributing houses give Dewey Fasteners with orders for three thousand or more "**Falcon**" sections.



Dewey Foundation Fastener.

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AMERICAN BEE JOURNAL
JULY 1911

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W. Z. Hutchinson, Late Editor of the "Bee-Keepers' Review"

An apicultural chieftain has fallen. He was one of the leaders not only in the actual work of the apiary for many years, but also in the literature of advanced bee-culture. He was a far-seeing prophet of the time when honey-production should be placed upon a firm business basis, and not conducted in connection with some other pursuit. He preached the gospel of "keeping more .bees," and practiced what he preached. He was ever discovering the best methods of apiarian procedure, and describing them for the benefit of others through the Bee-Keepers' Review, which he founded in 1887, and of which he was editor and publisher from first to last. The Bee-Keepers' Review was W. Z. Hutchinson. No other man can wholly take his place as its editor and conductor. His peculiar and fascinating personality permeated its pages and general management so thoroughly that it was a publication unique and widely different from all others in its field.

Mr. Hutchinson was born in Orleans Co., N. Y., Feb. 17, 1851, and 4 years later his father moved to Genesee Co., Mich. "W. Z." was of a mechanical turn of mind, which he followed until 18 years of age, when he began to teach school in the winter-time. It was the custom in those days to "board around," and in that way he happened to find a bee-book, which opened his eyes to a new world. Following this "lead" he discovered a bee-keeper by the name of Simpson, who had an only daughter in whom Mr. Hutchinson became even more interested than he was in her father's bees. She later became Mrs. Hutchinson, and to-day is left with 3 daughters to mourn for the one they so much loved, and who departed this life May 30, 1911.

In a letter written to us by Mrs. Hutchinson, she speaks thus tenderly of her late husband:

FLINT, MICH., June 5, 1911.

MR. YORK —Mr. Hutchinson kept up his courage until *almost* the last of his conscious days, as he was unconscious a day and a night before the end, and nearly so for 2 days before. Not more than a week before he said; "I have not done anything about the next Review, but guess I will let it go this month, and may be next." For he was trying so very much to get well, and thought it best to do all he could towards it. There were so many complications that appeared just as we felt encouraged to think he was gaining.

While he was in the hospital at Ann Arbor in the spring, and ever since that time, he sat up in his bed and kept the Review going, always with the expectation of getting well, and all of his work was planned with that end in view. A *better* man, *I* believe, never lived, nor a kinder husband or father. He looked, as he lay in his casket, as if he had never been ill, and it did seem so hard to have them take him away; but I feel that *some* day I *shall* see him again.

I was obliged to let my little grandson that has lived with us so long, go to his home in Detroit while Mr. Hutchinson was so ill. At the time of the furneral, little Bruce, being himself too ill to come, said he was going to die as soon as he could so he could see grandpa! This must tell how he loved him

MRS W. Z. HUTCHINSON.

We became acquainted with Mr. Hutchinson in November, 1886, while attending a meeting of the National Bee-Keepers' Association at Indianapolis, Ind., where we roomed together in the hotel. It was about 2 months after our own marriage, and Mr. Hutchinson being somewhat older, we had a delightful and confidential talk on topics uppermost in our minds at that time. He gave us some brotherly advice, and we became fast friends thereafter. Whenever he came to Chicago he would always call on us, and it was our pleasure to be in his home for a night when on our way to the National convention at Toronto, in 1895. Mr. Hutchinson accompanied us from his home to that meeting. We had a long and very pleasant journey together. (By the way, that was the last convention attended by Father Langstroth, and also Thomas G. Newman who preceded us as editor of the American Bee Journal.)

"He Taught Us To Keep More Bees"

For something like 20 years Mr. Hutchinson, as editor of the Bee-Keepers' Review, Ernest R. Root, as editor of Gleansings in Bee Culture, and the writer as editor of the American Bee Journal, have been a trio of friends that have had the best interests of bee-keepers at heart, and have worked harmoniously together for their advancement. In the former days there was considerable unseemly strife among the inventors, dealers and writers in the American bee-keeping world, but in these latter days there have been peace and quiet, and, we trust, progress and prosperity throughout the length and breadth of beedom. With perhaps only one or two exceptions during all the past 20 years, we three have been such close friends, and our aims have been so nearly parallel, that the sailing on the journalistic sea of apiculture has been exceptionally smooth, and there have been a steady on-going of the pursuit, and continued increase of the honey out-put.

Marvelous, also, has been the development of the manufacturing end of the business, as well as the improvement in every line, particularly that of the literature of bee-keeping. We may, perhaps, be pardoned for thus expressing ourselves, but we want to accord to our departed friend the larger share of credit for this later development and advancement. He was ever ferreting out the best and largest honey-producers, and inducing them to reveal the secrets of their success. In the later years of his life he not only kept up his publication to a high standard, but he even launched out into the practical work of the apiary, and hence his advice, "Keep more bees," was born of personal experience and faith in the pursuit. He was thus in a position to exemplify in actual practice what he advised on the printed page.

In the Bee-Keepers' Review for January, 1911, is an editorial paragraph written by Mr. Hutchinson, which shows him a prophet of inspiration, faith and hope for bee-keepers, and also suggests the kind of epitaph he hoped to deserve when he had passed from earth. The item is this:

HAVE FAITH IN YOUR BUSINESS

I have a feeling of kind regard; in fact, I might almost say, affection, for bee-keepers. I like to see them succeed. I am doing all in my power to help them succeed. I wish to drive from their minds all doubts and fears, and hesitancy I wish to inspire them with faith in their business, so that they will dare to go ahead and increase their business, and start an apiary here and another one there, and make money, so that they can ride out to their apiaries in an automobile. When I am dead and gone I wish to deserve the epitaph; "He taught us to keep more bees."

For a number of years Mr. Hutchinson was Secretary of the National Bee-Keepers' Association, and often had it not been for his ability to write shorthand in those earlier days, many of its annual proceedings would never have been preserved. He was also President of the Association for one year, and was always interested in its progress and up-building.

The bee-keepers of the Eastern United States recently assembled at the Massachusetts Agricultural College at Amherst, Mass. There they learned for the first time of the unexpected death of Mr. Hutchinson. After several of the bee-keepers had expressed their sympathy for Mrs. Hutchinson, and had spoken of the

(Concluded on page 213.)

AMERICAN
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OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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(Organized in 1870.)

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2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

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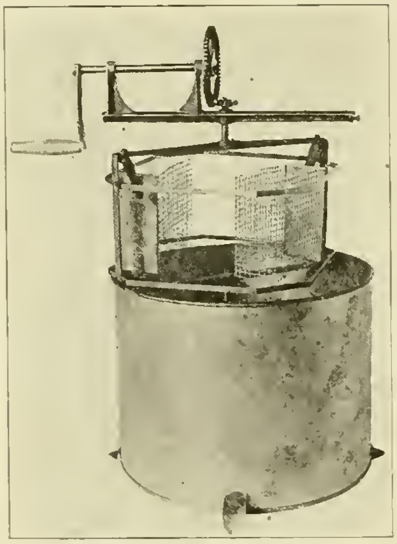

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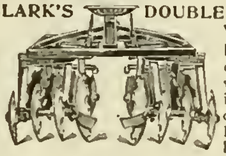

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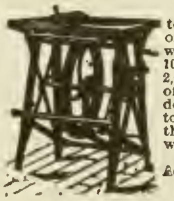

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AMERICAN BEE JOURNAL
L.L. LANGSTROTH
CHAS. DADANT

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at $1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., JULY, 1911

Vol. LI---No. 7

EDITORIAL COMMENTS

Non-Sitters and Non-Swarmers

In comparing bees with poultry, the editor of the Canadian Bee Journal was asked if, in the case of hens, egg-laying constitutes reproduction, why it does not in the case of bees. He calls attention to his previous statement, "It is only when queens are hatched and a swarm issues that *real* and *complete* reproduction takes place in the case of the honey-bee," and then says that the obvious answer "is that the hen's egg, if fertile, contains the germ which ensures the continuance of the race, but in the case of bees the continuance of the race is effected only through those eggs, that, as a result of the swarming instinct, are permitted by the bees to result in fully developed females."

Well, it does seem that there is some difference between bees and biddies, and yet it will hardly do to let that Canuck editor have his own way entirely. His idea seems to be that when a chick is hatched out of an egg there is "real and complete reproduction," but in the case of a bee's egg the reproduction is only seeming and partial, and that there is no real and complete reproduction unless there is swarming. Now, really, is not swarming colonization rather than reproduction? Suppose a colony continues year after year without swarming, each queen in succession being quietly superseded, would there be no reproduction? If a community of people should live for a century in the same place without sending out a colony, would you say there was no reproduction?

Getting back, however, to the real question, can we have such a thing as non-swarming bees? Can we not have non-swarming bees as well as non-sitting hens? We are told that such a thing as bees that never swarm has never been known. Well, do non-sitting hens never sit? Why, hardly ever. Then let us go for bees that will hardly ever swarm. Some such bees are said to be already in existence, and if it is fair to call a hen that hardly ever sits a non-sitter, is it not just as fair to call a colony of bees that hardly ever swarms a non-swarmer?

Anyhow, we have the good-will of the editor of the Canadian Bee Journal, who says, "Our sympathies are entirely with those who desire to modify the swarming instinct of bees." That's better than some to whom the mention of non-swarming seems to be as a red rag to a bull, and who seem to think there is something sort of wicked about trying to breed out the swarming habit.

Any approximation toward non-swarming is a matter of the deepest interest to the practical bee-keeper, and interest in it has greatly increased during the past 40 years. It is not likely that that interest will grow less.

That Million Dollars and Foul Brood

Over in England those who desire a foul-brood law are having a hard time of it through the oppostion of some who see all sorts of bad things to follow the establishment of such a law. The objections seem a little amusing to those who are familiar with the working of such laws. One of the latest is that a million of dollars has been spent in America to fight the disease, and in spite of that it is spreading. Neither is it some ignoramus who says that, but a man who is very intelligent on other subjects, W. Woodley, one of the most prominent British writers. He says in the British Bee Journal:

> "That million dollars seems a big sum to spend in a vain attempt to check disease, as we have it on good authority that foul brood is spreading at an alarming rate in the States of America."

It may not be a very wild guess that in some way Mr. Woodley has gotten things tangled, and that the only ground he has for his statement is that Dr. Phillips estimates that the annual loss from foul brood is a million dollars, and it might be still more without any foul-brood laws.

Securing the Illinois Foul-Brood Law

Last month we announced the passage of the foul-brood law which has been needed in Illinois for many years, and which, finally, through the efforts of a very few unselfish and devoted members of the Illinois State Bee-Keepers' Association, was secured during the session of the Legislature which adjourned in May. A copy of the law as it was passed and went into effect the first day of the present month, reads as follows:

A BILL

For an Act to prevent the introduction and spread in Illinois of foul brood among bees, providing for the appointment of a State Inspector of Apiaries and prescribing his powers and duties.

WHEREAS, the disease known as foul brood exists to a very considerable extent in various portions of this State, which, if left to itself, will soon exterminate the honey-bees; and,

WHEREAS, there is a great loss to the bee-keepers and fruit-growers of the State each year by the devastating ravages of foul brood;

SECTION I. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That the Governor shall appoint a State Inspector of Apiaries, who shall hold his office for the term of two years, and until his successor is appointed and qualified, and who may appoint one or more assistants, as needed, to carry on the inspection under his supervison. The Inspector of Apiaries shall receive for each day actually and necessarily spent in the performance of his duties the sum of four dollars, to be paid upon bills of particulars certified to as correct by the said State Inspector of Apiaries, and approved by the Governor.

SEC. 2. It shall be the duty of every person maintaining or keeping any colony or colonies of bees to keep the same free from the disease known as foul brood and from other contagious and infectious diseases among bees. All bee-hives, bee-fixtures or appurtenances where foul brood or other contagious or infectious diseases among bees exists, are hereby declared to be nuisances to be abated as hereinafter prescribed. If the inspector of apiaries shall have reason to believe that any apiary is infected by foul brood or other contagious disease, he shall have the power to inspect, or cause to be inspected, from time to time, such apiary, and for the purpose of such inspection he, or his assistants, are authorized during reasonable business hours to enter into or upon any farm or premises, or other building or place used for the purpose of propagating or nurturing bees. If said inspector of apiaries, or his assistants, shall find by inspection that any person, firm or corporation is maintaining a nuisance as described in this section, he shall notify in writing the owner or occupant of the premises containing the nuisance so disclosed of the fact that such nuisance exists. He shall include in such notice a statement of the conditions constituting such nuisance, and order that the same be abated within a specific time and a direction, written or printed, pointing out the methods which shall be taken to abate the same. Such notice and order may be served personally or by depositing the same in the post-office properly stamped, addressed to the owner or occupant of the land or premises upon which such nuisance exists, and the direction for treatment may consist of a printed circular, bulletin or report of the Inspector of Apiaries, or an extract from same.

If the person so notified shall refuse or fail to abate said nuisance in the manner and in the time prescribed in said notice, the Inspector of Apiaries may cause such nuisance to be abated, and he shall certify to the owner or person in charge of the premises the cost of the abatement, and if not paid to him within sixty days thereafter the same may be recovered, together with the costs of action, before any court in the State having competent jurisdiction.

In case notice and order served as aforesaid shall direct that any bees, hives, bee-fixtures or appurtenances shall be destroyed and the owner of such bees, hives, bee-fixtures or appurtenances shall consider himself aggrieved by said order, he shall have the privilege of appealing within three days of the receipt of the notice to the county court of the county in which such property is situated. The appeal shall be made in like manner as appeals are taken to the county court from judgments of justices of the peace. Written notice of said appeal served by mail upon the Inspector of Apiaries shall operate to stay all proceedings until the decision of the county court, which may, after investigating the matter, reverse, modify or affirm the order of the Inspector of Apiaries. Such decision shall then become the order of the Inspector of Apiaries, who shall serve the same as hereinbefore set forth, and shall fix a time within which such decision must be carried out.

Sec. 3. The Inspector of Apiaries shall, on or before the second Monday in December of each calendar year, make a report to the Governor and also to the Illinois State Bee-Keepers' Association, stating the number of apiaries visited, the number of those diseased and treated, the number of colonies of bees destroyed and the expense incurred in the performance of his duties.

Sec. 4. Any owner of a diseased apiary or appliances taken therefrom, who shall sell, barter or give away any such apiary, appliance, queens or bees from such apiary, expose other bees to the danger of contracting such disease, or refuse to allow the Inspector of Apiaries to inspect such apiary, or appliances, shall be fined not less than $50 nor more than $100.

For something like 6 years the Illinois State Bee-Keepers' Association has been endeavoring to induce the Illinois Legislature to pass this much-needed law, for the purpose of eradicating the disease of foul brood among bees in this State. At almost every session of the Legislature it developed that there were one or two enemies in the bee-keepers' camp, that were sending letters against the proposed law to members of the Legislature. We have in our possession one that was sent out not only during the recent session of the Illinois Legislature, but also during the session 4 years before, and also 2 years before, about the only difference being, we believe, that the words in italics in the second paragraph of the letter were crossed out, when mailing it the past winter, which would indicate that it was the same letter sent 2 and 4 years ago, with that one exception. We don't know why the names of the A. I. Root Co. and J. Q. Smith were crossed off *this* year when mailing the letter, unless it is that Mr. Smith had died within the past 2 years, and we understand the Root Co. threatened to make it pretty warm for those who were sending out this letter if it were not discontinued. But here is a copy of the letter as it was sent to one of the members of the Legislature last February:

Emerson, Ill., Feb. 23, 1911.

To the Honorable Chairman and Members of the Appropriation Committee, State Senate, Springfield, Ill.

Gentlemen:—Under the proposed Foul Brood law, an inspector can come into my bee yard and destroy as many hives of bees as he sees proper, or he can give me to understand it indirectly. If I do not make him a little private donation he will proceed to do me a great injury, and I can not prevent him from so doing. If I try to protect my property he can have me arrested and fined under the proposed law.

The prime leaders in this proposed law are such men as C. P. Dadant, a large dealer in beehives and supplies, *the A. I. Root Company of Medina, Ohio, and J. Q. Smith, a State inspector of Foul Brood.*

Foul Brood has existed as long as man has been keeping bees. It has been in my neighborhood for many years, yet there are more bees kept around me to-day than ever before. The law is for the purpose of giving manufacturers a chance to sell more hives and some men a job at the expense of the State, as inspectors.

Any up-to-date beekeeper can take care of Foul Brood without any help from the State. They say they have the beekeepers back of them. There are at present about two hundred members in the Illinois Beekeepers' Association. Of these two hundred, three-fourths are honorary members—commission merchants, honey dealers, beehive manufacturers, their agents and their help.

Foul brood comes and goes like any other epidemic, such as hog cholera and chicken cholera. Who would think of paying a man to go around and look after every old woman's chickens? or to every farmer who has a few pigs that got sick? If such a law goes into effect I want pay for my bees the same as the State gives for destroying other property. I want five dollars for each and every hive of bees an inspector destroys for me. I have made my living by keeping bees for years and I claim I know a little of what I am talking about. Foul Brood will wear out ten times faster than any inspector can get rid of it.

The following will show to what extremes such laws can be carried: In one state they have made a law that a person can keep bees in only certain kinds of hives. If the state does not make a law to pay the expenses of the Foul Brood inspectors we will not hear anything more about Foul Brood laws.

Very truly yours,

W. H. H. Stewart.

In a letter from Mr. Jas. A. Stone, Secretary of the Illinois State Bee-Keepers' Association, he has this to say regarding the foregoing letter:

Editor York:—This same letter came to the Chairman of the Senate Committee on Agriculture 4 years ago, and when our Legislative Committee had been heard before the same, the chairman (Senator Dunlap) said, "Gentlemen of the Committee, before action is taken on this bill [the foul brood bill], I have a letter I wish to read to the Committee." When the Committee had adjourned, our committee asked as to the substance of the letter, which was quoted to us, and our president, Mr. Dadant, guessed the author (J. C. Wheeler), so then we were permitted to read the letter, which was in substance this same letter.

One week later, when this letter was to have been read in the Committee, we had informed Dr. Miller, Mr. York, and others, of the condition, and they so flooded the Committee with letters, that when we went back the next Tuesday to defend our interests before the Committee, Senator Dunlap said, "I can not call the Committee to-day—so many are absent—but you need give yourself no anxiety; the letter is not going to be read, and we will report your bill out favorably." That was the end of our trouble in the Senate.

Two years ago this letter in substance came before the House Appropriation Committee, and it was at so late a date when we appeared to speak for our bill, that we were not apprised of the letter till too late to influence the Committee, because the chairman had read the letter to the Committee and it decided them against us.

We accused J. C. Wheeler of writing the letter, for we recognized it as the same in substance as his former letter. But the chairman said no. We said that no well-informed bee-keeper would write that letter. We answered that we would know by the names if they were bee-keepers, so the chairman read the signed names (about a dozen), and among them was the name Stewart, and if Wheeler's name was there he was hidden toward the last of the list—and was from the first the author of the letter, and has been making cat's-paws of the other fellows, so far as they were willing to be used. One of these letters came to my hand, signed by W. H. H. Stewart, addressed to Henry Stewart, asking him to send copies of it to his representatives, which he (Henry Stewart) refused to do.

I also received a letter from one bee-man who was honest enough to acknowledge his sentiment—or ignorance, as you might call it—for we used his letter before the Legislative Committee to help our cause. He said:

"I will not circulate the petition you sent me for a foul brood law, for I think a little foul brood in my neighborhood cleans out the bees, and gives me the whole territory; but I do think a foul brood law would keep diseased bees from coming in from Indiana."

After our committee (Pres. Dadant and Messrs. York, Baxter, Kildow, Pyles, Moore, and myself) had been heard the past winter, we never heard any more of these letters—we had so thoroughly put them in the Ananias list; and, as I said in another letter, when our Bill had been delayed, the same chairman on whom these fellows had tried their hand, "daddied" and pushed a Bill that makes their foul-broody bees worthless and condemned; so they will now have to suffer on the same gallows they have caused to be erected, as did Haman of old.

Jas. A. Stone.

It seems, however, that another letter was mailed by the same bee-keeper to a member of the Legislature, as follows:

Emerson, Ill., Feb. 18, 1911.

I just heard of a man in Indiana who got himself appointed for bees; the first thing he did was to go around among his neighbors and killed a lot of bees, that he might have the field to himself. This shows how the proposed foul brood law works.

W. H. H. Stewart.

Upon receiving the foregoing brief letter, we sent a copy of it to Hon. Benjamin W. Douglass, who is the State Entomologist for Indiana, and has charge of the bee-inspection work for that State. The following is his reply:

Indianapolis, Ind., Feb. 27, 1911.

George W. York,
American Bee Journal, Chicago, Ill.

Dear Sir:—I have your letter of the 25th and note your quotation from a letter received by a member of your Legislature.

The statement attributed to the Indiana bee-inspector is absolutely false from start to finish. I believe that I recognize the source of the information in question, and without going into the details of the matter, I can assure you that the report is utterly without foundation, and is a reflection upon serious, conscientious work. No bee-keeper of any repute is opposed to laws for the control of foul brood. We have only one or two old-timers who offered any opposition to the work of the Department. These men are all of the backwoods type of obstructionists who are against anything that happens to be different from the methods of their ancestors. The recent bee-keepers' convention in Indianapolis was attended by many of the most prominent men in the State, and the convention unanimously endorsed the Indiana Foul Brood law.

In Indiana we are extremely interested in the passage of a good foul brood law in your State, for several reasons. In the first place, it is difficult to control foul brood on the borders of Indiana as long as infected material is exposed just over the State line. One of the worst districts is located in the northwest corner of the State, and I believe that much of the foul brood in this section has been brought there from the immediate neighborhood of Chicago. You can see, therefore, why we are especially interested in securing foul brood laws in the States bordering Indiana.

Respectfully,

Benjamin W. Douglass,
State Entomologist.

We don't know that much comment from us is necessary on the foregoing letters, as they speak for themselves, unless it be to say that three Illinois organizations of bee-keepers — the "State," "Chicago-Northwestern," and the "Eastern Illinois" — were practically a unit in asking for the enactment of laws similar to those of other States.

Now, we have no objections whatever to honest and open opposition to the passage of any proposed laws, but we do object, and most strenuously, to deception and misrepresentation—in fact, absolute falsehoods—in order to thwart the honorable efforts of men like Messrs. C. P. Dadant, Jas. A. Stone, E. J. Baxter, A. L. Kildow, I. E. Pyles, Chas. Becker, W. B. Moore, and other honest members of the Illinois Association, who have labored so unselfishly and for the best interests of all the bee-keepers of Illinois, in securing the passage of the much-needed foul-brood law. But it may be that the foolish objections of a few so-called bee-keepers finally helped to turn the tide in favor of the passage of the laws, for it was very easy to show the committees of the Legislature the falsehoods contained in the foregoing letters; and, of course, when they understood it, and also the animus back of such letters, they naturally would feel like standing up for the right, and giving the bee-keepers of Illinois practically all they asked for.

There was appropriated for the enforcement of the foul brood law $1500 per annum, and $1000 per annum for the use of the Illinois State Bee-Keepers' Association. The total appropriation asked for was $3000, but all proposed appropriations were cut down in order that every worthy object should receive at least a fair proportion of the amount called for in various bills.

One would think that it was sufficient for Illinois to have her Lorimer, but we regret to say that she also seems to have a few bee-keepers who may properly be included in the same class of unworthies, but perhaps in a little different manner, though just as reprehensible as is the much-advertised Lorimer.

Shallow Frames for Extracting

In the Bee-Keepers' Review, Harry Lathrop makes a point in favor of shallow frames for extracting that is well worth considering. He says:

> They make it easier to avoid throwing out some unripe honey along with the ripe. Place a set of deep frames on a hive, and the bees will keep a strip of cells open along the bottom for the purpose of placing in them green nectar. If you extract these combs, some of this unripe honey will be mixed with the ripe, which is a detriment more or less pronounced. If in the place of one deep super you had used 2 shallow ones, the upper one would be filled entirely with ripe honey, and the unripe would all be in the lower one. There are times, of course, when the full-depth combs would do just as well, but at these times 2 shallow supers are always as good as one deep one.

Bee-Keepers' Congreas in Italy.—The Fifth International Congress of Apiculture will be held at Turin, Italy, Sept. 10 to 12, 1911. Bee-keepers from all parts of the world are invited to take part in this Congress, and an invitation is extended to honey-producers and bee-supply manufacturers to take part in an exhibition held in conjunction with the Congress.

MISCELLANEOUS NEWS ITEMS

Dr. Miller's 80th Birthday.—As indicated by the front cover page of the American Bee Journal last month, all of our readers are aware that Dr. C. C. Miller, the associate editor of the American Bee Journal, completed his 80th year June 10, 1911. It was our pleasure to call on Dr. Miller, at Marengo, the evening of that date. We found him well, and as happy as ever. In reply to our question as to how it felt to be 80 years old, he smiled, and simply said: "I don't know; I haven't been 80 long enough yet to say." The fact is that Dr. Miller is not the kind that grows old. He may be 80, or 90, or 100, and yet his heart will be as youthful and happy as ever. He is a man who lives always in the future. He evidently comes of a happy, hopeful race, and whether his years be few or many, his daily life is not affected thereby.

The Doctor has now nearly 120 colonies of bees in his home apiary. He discontinued the out-apiaries several years ago. He is a comb-honey producer exclusively, as most of our readers know; but the prospects on June 10, in his locality, were not encouraging for the production of anything along the honey line. But he was hoping that a change for the better in nectar-secretion might soon set in, and there yet be a good crop of honey harvested for 1911.

Dr. C. C. Miller at 80 Years.

We are pleased to be permitted to present herewith Dr. Miller's latest picture, which was taken a few days before his 80th birthday. We had expected to use it last month, but the original photograph did not arrive at this office in time. After all, there is not much difference between the present picture and the one that appeared last month, although the latter was taken several years ago.

We count it one of the greatest privileges of our life to have been permitted to know Dr. Miller so intimately for a quarter of a century. His help and his influence in connection with the American Bee Journal can never be measured. Even to-day we believe he is the best known and most prolific writer on bee-keeping in the world. We hope that he may be spared yet many years to bless not only those in his own home and intimate friends, but all who read his cheering, inspiring words on the printed pages of the American Bee Journal. His place will not be easily filled when the time comes that he is called upon to lay down the work of his earth-life and take up that of the Eternal.

We only wish that bee-keepers everywhere knew Dr. Miller as we do. We would not say what we are now saying, nor what we have said so many times heretofore, were it not for the fact that Dr. Miller is beyond the "spoiling age." There be some who save up the flowers to place on the casket of their best-beloved friend, but why not bestow some of them while the friend is here, and can appreciate them? Such flowers are worth more given during life, than if saved until after our friends have passed away.

And so let us all unite in the hope that Dr. Miller's abundance of earthly years may be extended far in the future, and that all the remaining time may be filled with even happier days than he has enjoyed thus far.

The National at Minneapolis.—As we have announced before, the next meeting of the National Bee-Keepers' Association will be held at Minneapolis, Minn., Aug. 30th and 31st—next month.

The Minnesota Bee-Keepers' Association is taking a great interest in this meeting, and have already begun to advertise it and to work for a large attendance. The Secretary of that Association, Mr. C. A. Palmer, writes us that through the courtesy of the Minneapolis Commercial Club, those in attendance at the convention will be given a trolley ride to points of interest in and around the Twin Cities. They thought it would be well to take the ride on Friday, the day following the regular convention. It should take 4 or 5 hours, or longer. This matter has been referred to Secretary Tyrrell. The Commercial Club has prepared a very neat folder containing suggestions for visitors to Minneapolis. Anybody may secure a copy of this folder if the request is sent to the Minneapolis Commercial Club.

There are less than 2 months until the meeting of the National. In the meantime, no doubt, every bee-keeper who can be present will make his plans accordingly. As we have before mentioned in these columns, it should be one of the most important meetings of the National Association that has been held in many years. There are a number of very urgent matters to come before it for decision, looking toward advancement along several lines, which should prove of great interest to bee-keepers everywhere.

Death of Mr. J. M. Null.—We learned on June 7th, that Mr. J. M. Null, the husband of Mrs. Mary E. Null, of Miami, Mo., passed away Jan. 22, 1911. Mrs. Null contracted pneumonia, and a day or two later Mr. Null also was taken with it. It was expected that neither would survive, but Mrs. Null recovered. She is very well known to a great many of our readers, for in years gone by she has contributed occasionally to our columns. Mrs. Null is a practical bee-keeper, and has made a success of the work. No doubt we shall hear from her again in the future, as she may have time to record some of her later experiences with bees. All of our readers will join us in extending heartfelt sympathy to Mrs. Null in her bereavement.

The Kansas State Fair will be held at Topeka, Sept. 11 to 15, 1911. A very attractive list of cash and other premiums is offered, and a copy can be had by any bee-keeper who desires it by addressing the Superintendent of the Bee and Honey Department, Mr. O. A. Keene, of Oakland, Kan.

"Bees" is the title of Farmers' Bulletin No. 447, which has just been issued by the United States Department of Agriculture. It was prepared by Dr. E. F. Phillips, In Charge of Bee-Culture. It is a slightly altered edition of Farmers' Bulletin No. 397, with the addition of a little matter in the text, and a few illustrations. This bulletin (No. 447) may be obtained by addressing the Secretary of Agriculture, Washington, D. C.

In the letter of transmittal occurs the following paragraph:

> "In the preparation of this paper, the aim has been to give briefly such information as is needed by persons engaged in the keeping of bees, and to answer inquiries, such as are frequently received from correspondents of the Department. No attempt has been made to include discussions of bee-anatomy, honey-plants, or the more special manipulations sometimes practiced, such as queen-rearing. The discussion of apparatus is necessarily brief."

Farmers' Bulletin No. 447 is a pamphlet of 48 pages, and just what every beginner in bee-keeping should have. On the last 2 pages of the pamphlet appears a list of all the publications of the Department of Agriculture on bee-keeping, up to and including April 1, 1911.

Bee-Inspector's Report in German.—We have received two copies of the 14th Annual Report of the State Inspector of Apiaries for Wisconsin, one of which is printed in the German language. Practically all readers of bee-papers know that N. E. France, of Platteville, Wis., is the Inspector of Apiaries for Wisconsin. Any bee-keeper residing in that State can have a copy of either report on application to Mr. France. A copy of the German report will be sent to any one outside of Wisconsin for 5 cents.

The Bee-Keepers' Review is to be continued by Mr. E. B. Tyrrell, the Secretary of the National Bee-Keepers' Association. At the earnest solicitation of Mrs. Hutchinson, he has arranged to take up its publication. Owing to the death of Mr. Hutchinson, it will be necessary to issue a double number for June and July. Mr. Tyrrell will endeavor to conduct the Review along the same lines as it has been running. We have known Mr. Tyrrell personally for a number of years, and he, no doubt, will prove a worthy successor to Mr. Hutchinson, as he has a wide acquaintance with bee-keepers, considerable experience as a bee-keeper, and is overflowing with enthusiasm and new ideas along the line of honey-production, and its better and more profitable marketing. Among our large circle of bee-keeping acquaintances, we can think of no one else who would be more likely to make a success of the Bee-Keepers' Review than Mr. Tyrrell. Surely, all will join us in wishing him the prosperity he so richly deserves.

Death of Wm. Stolley.—Mr. Wm. Stolley, of Grand Island, Nebr., who was well known to a large number of our readers, passed away May 17, 1911. Only a short time ago we announced the celebration of his 80th birthday, in which many of the people of Grand Island united to do him honor. He had spent over half of his life there. He was born in Germany April 6, 1831, and came to America in 1849, locating with a number of others of his German home at Davenport, Iowa. He was one of the early pioneers of Nebraska, and was instrumental in its development. Besides his wife, Mr. Stolley leaves 8 children to mourn his departure.

Mr. Stolley had been a bee-keeper for many years, and was an interested reader and supporter of the American Bee Journal, to which he made a practice of sending the name of a new subscriber every year. We had the pleasure of meeting him at several conventions of the National Bee-Keepers' Association, and while he took no active part therein, he, no doubt, was one of the leaders in the bee-keeping industry in his part of the country.

And thus one by one the veterans of the pursuit of bee-culture are leaving us. They have done their work well, and those who follow should find the pathway much easier on account of the good work done by their faithful predecessors. The foundations laid by the early bee-keepers are safe and sure. The rising generation can build upon them with ever-increasing confidence and assurance of success. The present owes much to those who 50 years ago were compelled to grope their way in apicultural darkness, but who, through untiring efforts and devotion, succeeded in placing bee-culture among the most satisfying and profitable of the minor agricultural industries of the world.

The National Association of bee-keepers now numbers in membership a few over 4500. Why not make it an even 5000 by the time of the Minneapolis convention, Aug. 30th and 31st? This could easily be done if only a few of those who should become members will send their $1.00 dues to General Manager N. E. France, Platteville, Wis.; or, if more convenient, send to the office of the American Bee Journal, when we will forward it to Mr. France, and he will mail receipt. Next month we expect to be able to announce the full program for the convention, and also particulars as to hotel accommodations, etc. The thing to do now, by all who think they can attend, is to begin to get ready for a great meeting. We hope to see the best attended of any convention the National has ever held. Then it will doubtless be the best in every other respect.

The New Passenger Terminal of the Chicago & Northwestern Railroad Company, in Chicago, is the most modern railroad station in the world. It is located on Madison Street, between Canal and Clinton Streets, occupying 4 city blocks, extending north between Madison, Washington, Randolph and Lake Streets. It covers a space of 10 acres, and has a capacity for handling a quarter of a million people daily, entering or departing from the city on the hundreds of through trains which place Chicago in touch with the West and Northwest. It is occupied exclusively by the Chicago & Northwestern railroad, and represents the latest step in perfection of travel comfort. There is nothing like it west of New York city. The total cost of this 8th wonder of the West was $24,000,000.

All the conveniences of a first-class hotel are found here, with the one exception of sleeping apartments. Ladies and children will find perfectly arranged apartments at their disposal, including private rest-room, tea-room, baths and retiring-rooms. The invalid is provided for with perfect hospital facilities. There are dressing-rooms, sanitary barber-shops, baths, rest-rooms and waiting-rooms for men. There are 35 windows where tickets can be purchased. A garage is provided for motor-cars. The dining service is unsurpassed by the best metropolitan cafes. Another innovation is a drug-store where all possible travel accessories may be obtained at reasonable prices.

There are 40 clocks in the building, all regulated by a master clock. The air of the station is changed every 20 minutes by a modern ventilating system, and the drinking water is constantly kept at a temperature of 52 degrees; this can be had both through faucets and the bubbling system.

The main waiting-room is 84 feet from the floor to the top of the ceiling, the latter being self-supporting, and the only one of its kind in the world. There are 250 electric lights in this splendid waiting-room.

This passenger terminal of the Chicago & Northwestern railway is located in the midst of Chicago's greatest activities, and is reached direct by no less than 4 great thoroughfares of traffic leading to and from the adjacent hotels and business houses. The American Bee Journal is just one block directly west of this magnificent structure, so that our office can be reached within one minute or less time after stepping off the train. We hope that any of our readers who come to Chicago will be sure to see this wonderful passenger terminal of one of the greatest railroads on earth. There are a number of other attractions connected with it that we can not describe for want of space. In fact, it must all be seen in order to be fully appreciated. It will doubtless be one of the greatest wonders of this city for years to come, as likely no other Chicago railroad system will attempt the erection of such a building, elevated tracks, etc., as the Chicago & Northwestern now, after about 4 years' work, has erected and put into actual service —a service that is certainly delightful to all who can avail themselves of it. It is our pleasure, as well as privilege, to enter this terminal and depart from it every business day of the week. Come to Chicago and see it, and also call at the office of the American Bee Journal, where we will be pleased to welcome you. (See illustration on last page.)

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Pennaylvania Summer Bee Meeting.—This will be held in the High School Building at Reynoldsville, Pa., July 11 and 12, 1911. After the usual preliminaries, consisting of reports, welcome address, etc., the following topics will be treated:

"Handling Bees for Practical Work," by Geo. H. Rea.
"Handling Bees for Exhibition, by E. R. Root.
"Handling Hives and Apparatus," by I. F. Miller.
"Equipment for the Amateur," by Prof. H. A. Surface.
"Late Developments in Apiculture," (illustrated by E. R. Root.
"Queen-Rearing," by Penn G. Snyder.
"Improving Stock," by S. P. Christian and and J. R. Rambo.
"Controlling Swarming when Working for Comb Honey," by Chas. N. Greene.
"Extracted Honey," by Harold Hornor.
"Necessity and Methods of Apiary Inspection," by Geo H. Rea.
"Building Up Colonies for the Clover Harvest," by Wm. A. Selser.
"Treating Foul Brood," by Geo. H. Rea and Wm. A. Selser.
"Shook-Swarming,' by E. R. Root.
"Transferring from Box-Hives and Trees," by Prof. H. A. Surface and H. C. Klinger.

The work of every afternoon will be in an apiary. Special music will help to enliven the program. Exhibits of honey and bee-supplies will be made. Excellent hotel accommodations have been secured. Rooms may be had with or without boarding. Good meals are served at restaurants. Bee-keepers' headquarters will be at Frank's Tavern; where special rates have been secured at $1.50 per day. For any further desired information address, H. C. Klinger, Liverpool, Pa.

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Illinois 10th Annual Report.—The Report contains (227 pages) a shorthand report of not only the State Association's last meeting, but also of the Chicago-Northwestern and the National for 1910. It was ready for the mail just at the date of the passage of our foul brood law, and we had it held till the Governor would sign the law, and had it placed in the Report as a paster, so that all our members could know what our law is. The law we first applied for is also there, but we have explained elsewhere why they differ. Last year we had 300 cloth-bound copies of our Report, and had just a few left; this year we ordered the same number, and later ordered 20 more, and still are about to run out. Those who send in their fees from this time on for the year may have to take a paper-covered Report, but they will be down for a cloth-bound copy for next year. Those not members can have a paper-covered Report for 27 cents, by sending order to the Secretary.

Now that the Illinois State Bee-Keepers' Association, with the help of the Chicago-Northwestern, have succeeded in securing a foul brood law for Illinois, it becomes the duty of every bee-keeper in the State to help one of these associations at least by their support. One dollar membership fee sent to Sec. Jas. A. Stone, Rt. 4, Springfield, Ill., gives membership for one year in the State Association, in the National, and a copy of the Report. One dollar and 50 cents sent to Sec. Louis C. Dadant, Hamilton, Ill., pays a yearly membership fee in the two above-named societies, and in the Chicago-Northwestern as well, besides a copy of the Report, as above. Each member joining after March 1st gets a paper-covered Report, and the next year a cloth-bound one.

JAS. A. STONE, *Sec.*
Rt. 4, Springfield, Ill.

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

A Sister "Government Apiarist"

One of the sisters seems to be playing a leading part in far-off South Africa. H. F. Benger, Hon. Sec. South African Bee-Keepers' Association, says in the British Bee Journal:

> In a quiet way, Miss M. D. Sillar, the Government apiarist, has been doing good work in the Orange Free State, and the result of this must react in the future in the establishment of apiculture on a firm basis as an important rural industry.

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"Tartared Teeth"—A Warning

MY DEAR MISS WILSON:—Permit me as a practicing dentist to take radical exception to Mrs. M. E. Pruitt's recommendation, in your department, for "Tartared (!) Teeth," page 169.

A very few applications of muriatic acid, even in far more dilute form than stated, will be the ruination of 99 percent of teeth so treated; any combination of sugar or honey with an acid, only increases the injury done.

While it is my belief, based on more than 30 years' observation, that the pure natural acids of ripe fruits have but comparatively little effect upon the teeth, taken with due moderation, it is a matter of positive fact that all mineral acids attack tooth substance most viciously and instantly upon contact. I say the "*pure* natural acids, of ripe fruits" —the addition of any sweet changes the action of such acids, or any acids in contact with material composed largely of lime, as are the teeth, making the action far more energetic.

Let me advise that no person should try to remove "tartar" deposits on his own teeth, nor allow any one to try to do it for him excepting a dentist, who will do such work thoroughly and harmlessly by mechanical means solely.
C. D. CHENEY.
Hoboken, N. J.

Dr. Cheney is entitled to very warm thanks for calling attention to this very unfortunate error, which Mrs. Pruitt will most certainly be glad to have corrected. According to what Dr. Cheney says, the acid in question will be effective in attacking tartar on the teeth; but this seems to be one of the cases in which "a little learning is a dangerous thing." We are not *merely* to learn that the acid will affect the tartar, but we are to learn that the acid will at the same time attack the tooth itself. But anything further than Dr. Cheney's vigorous letter is hardly needed to emphasize the danger.

It will probably be news to many a housekeeper that the addition of any sweet to the "pure natural acids of ripe fruits" is not a good thing for the teeth. The fact is that with many the habit of adding sweet to fruit is carried to such an extent as to be bad for both teeth and digestion. Most fruits are really at their best without any sugar at all, if the fruit be maturely ripened, provided the taste has not been badly educated.

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"How You Can Earn Money With Bees"

Under this caption appears an article in the Delineator, written by Samuel Armstrong Hamilton, urging bee-keeping for women. It contains some good things, and enough of the other kind to relieve it of monotony.

Here are some things to which all bee-keepers would not agree: "Langstroth movable dovetailed hives........ used by all up-to-date bee-keepers." "The 10-frame hive should be preferred, as being better for comb honey." "The making of extracted honey is not profitable unless there be an apiary of 50 hives or more, owing to the expensive machinery required and the additional help needed." A section is "A small frame of wood, 4x5 inches." (What would he call the usual 4¼x4¼?)

Evidently Mr. Hamilton has no extravagant idea of woman's ability when he says: "A woman can run an apiary of 25 hives without assistance, except when putting them into the cellar for wintering, if run for comb honey." That hints that 25 run for extracted honey would be beyond her. What *would* he think of Miss Mathilde Candler who counts her colonies by the hundred, doing nearly all the work alone?

Swarm management is somewhat original. When the swarm issues, set the old hive at least 30 feet away, and put the swarm in its place. In the evening of the same day return the old hive to the old stand, and set the swarm on a new stand some distance away, with a marker in front. *At this time the old hive has all the nurse-bees and a new queen.* Now is it locality or management that allows no nurse-bees to go with the swarm, and that gives the mother colony a new queen a week before the usual time?

Still, Mr. Hamilton *might* have had more things wrong than he has.

Bee-Keeping for Women

In her salutatory Miss Ethel Robson, Conductor of the Woman's Department in the Canadian Bee Journal, makes an unusually strong and convincing plea for bee-keeping for women. Pity that it could not be read by the thousands who are not interested in bee-keeping and yet who might be, instead of being read by the few already interested. Yet its reading will stimulate this latter few, so the article is here given entire:

> We hear a great deal about keeping the boys on the farm and about giving the boys a chance. This is all right, but how often do we hear about keeping the girls on the farm and giving the girls a chance? Yet year by year the girls are leaving the farm, mainly because they desire a chance for some sort of economic independence. But if country life is to be made attractive and interesting, it is just as necessary that the girls be kept on the farm as the boys. Of the girls who go for school teachers we can make no complaint—the children must be taught, and as neither the responsibility nor the emolument of teaching the rising generation makes much appeal to the young man, the girls will have to fill the need.
>
> But by no means all the girls who leave the farms become school teachers; many more go into offices and shops and factories. They do not go in the hope of making their fortunes, or becoming the heads of big business concerns, or if they do, few realize their ambitions; the best they can look forward to is a comfortable livelihood, with the possibility of marriage, for which their work by no means tends to fit them. Yet for many of these girls it is imperative that they make a living; perhaps the family finances can not be stretched sufficiently far to go around, or it may be that a brother has married and they have been crowded out, or possibly it is a wholesome desire to exist by their own exertions; and with a few —Heaven prosper their efforts!—it is the quenchless ambition to spend themselves in the service of humanity. The tendency of our educational system seems to have been to educate the girls away from the country. It does not direct their attention to the farm, either for their pleasure or for the more practical matter of making a living in their own resources.
>
> How many, I wonder, looking back on their school days can recall a single effort made to fit them for a life on the farm either in the way of filing them with pride in the farmer's place in the community or teaching them that nothing can exceed the simple pleasure in growing and living things. With some shame I confess that it is not very long ago that I looked upon the discussion of the prices of butter and eggs and the best methods of raising turkeys as exceedingly petty, as, indeed, it can be, if viewed from a narrow, personal standard, but when viewed as a part of the great scheme of existence it takes an another meaning. And so our girls, when face to face with the vital problem of making a living rarely look towards the farm, instead they gravitate to the towns to swell the already over-full ranks of the wage-earners, and drain the country of the fresh young life which it so greatly needs.
>
> And now, oh, dear women readers of the Canadian Bee Journal, all this preamble is only preparatory to an expression of our firm belief that bee-keeping offers a most remunerative and healthful and interesting employment to women in the country; the great wonder is that they haven't turned their attention to it largely long ago. It is the object of this department to stimulat the interest of the women of Canada in thi most promising industry that many may be induced to enter it on their own account. We do not propose to put men out of business; indeed, it will be necessary for long enough to have the enterprise and experience of the men, if the honey trade is to prosper; but there are at present thousands of tons of nectar going to waste yearly in the fields of Canada, which we women may have for the taking, if we only have the initiative and perseverance to make our own. So, come along, let us see how much of it we can gather!

CANADIAN BEEDOM

Conducted by J. L. Byer, Mt. Joy, Ontario.

Hot Weather and Honey-Dearth

In the May number of the American Bee Journal I mentioned the fact of the season being later than usual. How Nature can change things in a hurry when she takes a notion!

About 10 days ago rains fell, and then great heat followed, and for the past 6 days the heat was simply torrid. Vegetation has come forth with a rush, and indications are now that the clover will actually be in bloom earlier than last year. Dandelions are out in full bloom in the forenoons, but will not last long with the present heat. To-night (May 22) the fronts of the hives are all covered with great clusters of bees like in July instead of May, and, where supers are not on, some swarms will likely issue. Apple-blossoms are also out, but in the afternoons, when the dandelions are closed, the bees will try to rob if they are handled, showing plainly that the bloom is devoid of nectar. Whether the great heat we are having is a factor or not in bringing about this condition I know not, but I do know that the absence of nectar makes it mighty unpleasant for doing any work in the apiary in the afternoons.

Ontario Apiary Inspectors for 1911

J. S. Schrank, Port Elgin.
D. Chalmers, Poole.
John Artley, Blantyre.
W. A. Chrysler, Chatham.
John Newton. Thamesford.
James Armstrong, Cheapside.
Arthur Adamson, Erindale.
Henry Johnson, Craighurst.
Homer Burk, Highland Creek.
W. Scott, Wooler.
Alex. Dickson, Lancaster.
J. B. Checkley, Linden Bank,
Herbert Doherty, Lang Bay,
Morley Pettit, Guelph,
R. Fretz, O. A. C., Guelph.
G. L. Jarvis, O. A. C., Guelph.
F. E. Millen, O. A. C., Guelph.

In looking over the foregoing list of inspectors for Ontario for the present season, it will be noticed that three students of the Agricultural College from Guelph are among the number. This is a step in the right direction, as it is hard to get qualified men to go out on inspection work, as most of them are quite heavily interested in their own behalf in so far as looking after bees is concerned. Indeed, there is no question but that many of the men acting are doing so at a personal sacrifice, and if it is possible to get students trained for the work, certainly the movement will be approved by most of the bee-keepers.

It may be argued that students are not qualified well enough to act as inspectors, but I believe we may have implicit confidence in Mr. Pettit, who has charge of the work to a great extent, and may trust to his judgment in the sending out of any men on this important branch of the Government service. I understand that the students named on the list have been with thoroughly competent men during the past few weeks, and are being drilled in the practical side of the work they will be called upon to perform. Of course, they have had the theoretical part of the training imparted to them through the winter months at the College. As the young men in question are contemplating taking up bee-keeping as a specialty, the training they will receive while "on the road" should prove of great value to them in the future when they enter their chosen vocation for life.

Carniolan Bees and Swarming

A friend in Sunnyside, Calif., writes me in reference to the Carniolan bees, asking me to explain in the American Bee Journal how I control swarming with this race of bees. Judging from what he says, he has never kept any of these bees, and has been influenced by the many reports of the excessive swarming of Carniolans.

Now, I do not deny but what they will swarm more than Italians, but I do insist that this race has been maligned unduly on this point, as with a large hive the swarming problem is easily controlled. And right here let me say that one reason they swarm sooner than some other bees, is because they are so much more populous early in the season, and if allowed to become crowded in the brood-chamber, naturally they seek relief from these unnatural conditions.

I use the Jumbo-size hive, and it is a rare thing indeed when I do not have to give supers to the colonies in these hives by the time fruit-bloom comes on. No matter how cold the weather is previous to this period, if the colony has abundance of honey to draw on, the condition named will always be in evidence when the fruit-blooming period comes along. By giving lots of super-room, I have had no trouble with swarming even in years of heavy yields.

In 1909 I averaged, for the 3 apiaries, a little over 150 pounds per colony, and if I remember correctly, I did not have over a dozen swarms, all told. Some of these were caused by supersedure, and if all colonies had young queens, I am convinced the swarming would have been about *nil*. Of course, the bees in the yards in question were not all Carniolans, yet this blood predominated, and the pure Carniolans swarmed no more than any others.

Of course, this fact must be considered when thinking of keeping Carniolans. A hive as small as the 8-frame Langstroth will be treated as a joke by these bees unless a second story is given real early in the season. Then, again, a single story of this size would not give satisfaction when the queen would be forced down at the commencement of the honey-flow.

The friend who asked me to speak of these bees says that in California the early-breeding instinct would be of great value, and from what I know of these bees I have not the slightest doubt about the matter.

He also asks as to how Carniolans would act if treated on the "shook swarm" plan if run for comb honey; but on this point I can give no opinion as I have had no experience on that line.

Right here let me say that I hold no brief for any breeder of Carniolan bees, but, frankly, I have often wondered at the exaggerated ideas advanced about the bad traits of these bees, from the pens of men well known in the calling.

In conclusion, I would advise my friend to try Carniolans on a small scale, and then decide on their merits, after a fair trial.

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

A Southern Honey Price-List

One of our readers has asked us the following:

> "Please give us an outline for a price-list of honey as you are using it. It may seem easy enough for the ones who are well versed in business to make out a price-list. but for us who know little about it this is quite a puzzle."

In reply to this query we think we can answer to the best advantage by simply giving a copy of our price-lists that we have used for a number of years, and which have served our purpose very well. Of course, such lists can be arranged to suit different requirements. For instance, it will be noticed that section honey is not quoted on our list, since we do not produce it in Texas, and hence it is found on hardly any of the many price-lists that are sent out by our bee-keepers. Instead of the bulk comb honey prices this space can be used for section-honey prices. However, I am sure that the time will come when many price-lists will have all three kinds of honey appear on them; that is to say, that extracted, section and bulk comb honey will be offered by some producers, and therefore the price of each will appear on the list. Since we produce only the two kinds of honey—extracted and bulk comb—we give our own list here:

EXTRACTED HONEY.

60-lb. cans with 1⅝-in. screw caps, 2 in case, per lb	9c
12-lb. friction-top pails, 10 in case, per lb	9½c
6-lb. friction-top pails, 10 in case, per lb	10c
3-lb. friction-top pails, 20 in case, per lb	10½c

COMB HONEY.

60-lb cans with 8-in. screw caps, 2 in case, per lb	11c
12-lb. friction-top pails, 10 in case, per lb	11½c
6-lb. friction-top pails, 10 in case, per lb	12c
3-lb. friction-top pails, 20 in case, per lb	12½c

Low Honey Prices—Who is to Blame?

Time and again the question of the present prices of honey as compared with other like products is up for discussion. In comparison with the many other things that come in the same class as honey does, it does seem as if the prices of honey are too low. The question then follows, "Who is to blame?"

If we compare the prices of honey prevailing in the Northern markets throughout the year, we find that, unlike the way it used to be in times past, the prices are about the same as our prices here in the South. Of course, we have only the extracted honey to compare, as section honey is very rarely produced in the South, while bulk comb honey—strictly a Southern product—is not found as a general product on the markets of the North.

We wish to go on record as having striven for many years to bring up the price of honey, and we must claim at least some success for our efforts. A great difficulty that we have experienced, however, is that of having other producers quote their honey at a much lower price than the general market would pay. This is aggravating, to say the least. It seems nonsensical, when we know that we can get from a half cent to one cent per pound more for all of the honey that we can possibly produce, just as easily as to get the lower price. This is especially so when the seasons are not so favorable and the crops not so large.

Since we have studied this matter for many years, we know whereof we speak. Every year we have quoted our prices, which are generally higher than most of the other producers, and it was no trouble at all to be flooded with more orders than we could fill. This must show, conclusively, if anything at all, that the higher price was satisfactory as far as the market was concerned. But there has not been a single year in which we did not hear from some of our customers that other bee-keepers were offering their honey at from one-half to a cent per pound lower than our prices, and that they did not understand why it was, except that there must be an overproduction of honey. In many cases we have been asked to meet this lower price, but when we have such a large demand as we have had for the last few years, we do not deem it advisable to lower our prices, and the result has been that our customers buy our honey just the same, stating that in doing so they know just what they are going to get.

However, it is to be regretted that the blame for the low prices of honey rests with the bee-keepers themselves, and it is hoped that the time is not far off when each and every one of them will make a stronger effort in the direction of aiding in raising the price of honey just so much, and we are confident, beyond the least doubt, that the result would soon show.

There is no question but that the prices of other commodities that belong in the same class as honey are higher in price, but why should this be? We know that the united effort of the concerns that put other things out to the trade "hang together more than the bee-keepers do, and agree on a certain price for their goods." It is very seldom that one of these concerns rushes in with prices below the market when there is no reason for it. But this must be said of a lot of bee-keepers who, we know, have done this very thing year after year.

Conditions here in the South are such that we are able to sell all our honey at a good price without fearing that we will not be able to sell it at all. Of course, we do not mean that we should put the price up too high—higher than the market can stand to pay for it and handle it at a reasonably good profit; but we do not believe in offering our honey at a less price than the market is willing to pay, either. A half a cent to one cent a pound makes a great deal of difference to a producer who has from 50,000 to 100,000 pounds of honey to sell in a single year, and it is worth going after if that is possible without being unreasonable.

"Bee-Keepers' Guide"

This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, $1.20; or with a year's subscription to the American Bee Journal—both for $1.90. Send all orders to the office of the American Bee Journal.

FAR WESTERN BEE-KEEPING

Conducted by Wesley Foster, Boulder, Colo.

Colorado Honey Crop Prospects

The outlook is good for honey in Colorado. The Western Slope reports conditions favorable; bees were swarming in the Arkansas valley around the first of May, and except in places where water is scarce the crop will probably be good. Grasshoppers, drouth and loss of bees the past winter will limit the crop in northern Colorado, but what bees are left are doing well wherever there is water for the alfalfa. The grasshoppers are not increasing the way they seemed to be, and I doubt whether they will be a general pest this summer.

Idaho is late on account of the cold, damp spring, but alfalfa began yielding there early in June. The bees in northern Colorado began working on the alfalfa the last of May—the earliest I ever saw it.

Sweet clover is coming on fine, and though June so far has been very dry, a good rain has fallen with prospect of more, and things will now grow some during the next few weeks.

White clover is coming in thicker every year, and the bees are thick on it. I am not sure but what we will soon have to give white clover a place along side of alfalfa and sweet clover.

Horsemint and many other dry-plains flowers are furnishing honey, and while this honey is not so high in quality, I am glad to see come all that will.

Some day I hope to know all the wild flowers that yield pollen and nectar, but that will be quite a job, I can assure you Our wild flowers are such beautiful and interesting specimens that when I may spend some time with them is looked forward to with delight. I have several pictures of them already. When one has photographed a flower it is not soon forgotten—the focusing of the camera and making the exposure give one time to observe the structure in every detail. And if you can catch the bees on the blossoms it is all the more interesting.

Our New Apiary Law

The bill drawn by the Legislative committee of the Colorado State Bee-Keepers' Association has passed both the House and the Senate, and has been signed by the Governor. This new law takes effect 90 days after the Legislature adjourned, or about Aug. 4th. The law provides for the establishment of a division of apiary investigation and inspection under the State Entomologist, Prof. C. P. Gillette, of the Colorado Agricultural College. An appropriation of $2500 per year is made to carry out this work, and we now have a division of bee-investigations as well as an inspection law that has given effective results in other States.

Thanks for invaluable aid are due to Senator Casaday, of Boulder, who introduced the bill in the Senate, and to Representative Skinner, of Montrose, who introduced the bill in the House. Dr. Phillips and Editor Root also gave many valuable suggestions and helped in every way within their powers. The American Bee Journal, Gleanings in Bee Culture, and Ranch and Range, all threw open their columns to the cause and urged the bee-men to write their legislators, which they did in fine fashion.

The State Association sent out over 300 letters to bee-keepers, and every legislator was also written in regard to the bill. The expense was borne by the Association, and the treasury is bankrupt; but we will replenish it as we have done before.

The following is a copy of the new law:

A BILL

For an Act to establish a Division of Apiary Inspection and Investigation under the State Entomologist. etc

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1—The State Entomologist is hereby authorized to conduct a division of apiary investigation and of inspection of bee-diseases directly or through a deputy, who is experienced in apiculture. The investigation to cover the introduction of nectar-producing plants, the agencies influencing the secretion of nectar in plants, and such other subjects as may advance bee-culture in Colorado. The inspection shall extend to all parts of the State where bees are kept, for the prevention, eradication or control of bee-diseases.

SEC. 2.—Every bee-keeper or other person who shall be aware of the existence of foul brood or any other infectious or contagious disease of bees either in his own apiary or elsewhere in the State, shall immediately notify the State Entomologist or his deputy in charge of apiculture of the existence of such disease.

SEC. 3.—The State Entomologist or his deputy in charge of apiculture shall, when notified in writing by the owner of an apiary or by any bee-keeper, examine all reported apiaries, and if any contagious disease is present, examine all others in the same locality not reported, and ascertain whether or not any disease known as American foul brood, European foul brood, or any other disease which is infectious or contagious in its nature, and injurious to honey-bees in their egg, larval, pupal, or adult stages, exists in such apiaries; and if satisfied of existence of any such disease, he shall give the owner or caretaker of the diseased apiaries full written or printed instructions how to treat such cases as in his judgment seem best, and state a time in which his instructions shall be carried out.

SEC. 4.—The State Entomologist or his deputy in charge of apiculture shall visit all diseased apiaries a second time, after ten days, and if need be burn all colonies of bees that he may find not cured of such disease, and all honey, comb and appliances which would spread disease without recompense to the owner, lessee or agent thereof.

SEC. 5.—If the owner or caretaker of an apiary, honey or appliances wherein disease exists shall sell, barter, or give away, or move, or cause to be moved without a written permit from the State Entomologist or his deputy in charge of apiculture, any diseased bees (be they queens or workers), colonies, honey or appliances, or expose other bees to the danger of such disease, said owner or caretaker shall, on conviction thereof be fined not less than Fifty Dollars nor more than One Hundred Dollars, or imprisoned not less then one month, nor more than two months, or both.

SEC. 6.—It shall be unlawful to move bees from localities where disease is known to exist without a permit from the State Entomologist or his deputy in charge of apiculture; For violation of this act said owner or caretaker shall on conviction thereof be fined not less than Fifty Dollars nor more than One Hundred Dollars.

SEC. 7.—Common carriers shall not accept bees for shipment without a permit from the State Entomologist or his deputy in charge of apiculture; For violation of this act said common carrier shall on conviction thereof be fined not less than Fifty Dollars nor more than One Hundred Dollars.

SEC. 8.—For the enforcement of the provisions of this act the State Entomologist, his deputy or his duly authorized assistants shall have access, ingress or egress to all apiaries or places where bees are kept; and any person or persons who shall resist, impede or hinder in any way the inspection of apiaries under the provisions of this act shall, on conviction thereof, be fined not less than Fifty Dollars nor more than One Hundred Dollars, or imprisoned not less than one month nor more than two months, or both.

SEC. 9.—After inspecting infected hives or fixtures, or handling diseased bees, the inspector or his assistant shall, before leaving the premises or proceeding to any other apiary, thoroughly disinfect any portion of his person and clothing, and any tools or appliances used by him which have come in contact with infected material, and shall see that any assistant or assistants with him have likewise thoroughly disinfected their persons and clothing and any tools and implements used by them.

SEC. 10.—The sum of $2500 per annum is hereby appropriated to be expended for this work under the direction of the State Entomologist, to pay the salary of the deputy in charge of apiculture, the necessary expense in traveling, printing blanks and circulars, and in otherwise carrying out the provisions of this act.

The State Auditor is hereby authorized to draw his warrants upon the State Treasurer for the sum herein appropriated upon the presentation of proper vouchers, and the Treasurer shall pay the same out of any funds in the State Treasury not otherwise appropriated.

SEC. 11.—All acts or parts of acts in conflict with this act are hereby repealed.

SEC. 12.—In the opinion of the General Assembly an emergency exists and this act shall take effect from and after its passage.

Alexander Plan of Increase

The Alexander plan of making increase is working fine here this year. Colonies that were covering but one or 2 combs the first of May have built up and been divided on the Alexander plan, and each colony is now (June 15) ready for and working in the extracting chambers. This will not work every year, but fruit-bloom was very profuse and yielded honey for several weeks, and the bees just "spread themselves." The bees spread their nest and took care of the brood as fast as the queens could lay the eggs.

Souvenir Bee Postal Cards

We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for $1.10. Send all orders to the office of the American Bee Journal.

BEE-KEEPING IN DIXIE

Conducted by J. J. Wilder, Cordele, Ga.

Reports from Dixie

From the white tupelo-gum region:

My bees almost had the nectar in their mouths when the awfully cool and windy weather set in, which continued during the flow, and only a half crop, or less, was harvested.
S. S. Alderman.
Wewahitchka, Fla.

From the chinquapin region:

Our flow is good. Many of my colonies are storing in their third and fourth supers.
Fort White, Fla. R. W. Herlong.

From the saw palmetto region:

The heavy gale set in with the honey-flow, and has lasted up to the present, and less than a half crop will be gathered.
Canaveral, Fla. H. L. Holmes.

From the poplar region:

The weather is very cool, and the honey-plant is nearly at its height of bloom, and I fear a very light crop will be the result, for the bees have not done much storing in the supers.
John W. Cash.
Bogart, Ga.

From the ty-ty region:

The freeze in February killed the larger percent of ty-ty, and a large crop can not be expected.
L. S. Gilmore.
Bluff Springs, Fla.

From the gallberry region:

The honey-flow is the best for years, and a good crop has been gathered, except in locations where the forest and waste land have been burned close. It has been a very dry winter and spring, and almost all low land could have been burned off, and in some localities it was, which, of course, will make the flow light with some bee-keepers.
Pinehurst, Ga. B. F. Leaptrot.

Apiary Work for July

The most unpleasant thought about outlining apiary work is that very few will try, or at least make an effort, to follow in some way the work outlined. Well, it is just this important: If we turn loose our bees as soon as the spring harvest is over, we will have but very little or no summer and fall harvest, and heavy losses during the winter and spring. On the other hand, if we do continue apiary work, we may expect a good honey harvest to follow, and no winter losses. I have tried it both ways, and I am more eager to prepare my bees for summer and fall harvest than spring, because weather conditions are most sure to be more favorable. Since I have resorted to continued apiary work, I have gone from no summer harvest to where it is about equal to the spring harvest.

I used to fear failures, but I don't now, because I have so much time to do apiary work and harvest honey.

The greatest thing we can do towards harvesting a crop of honey is to have all colonies headed with good queens and plenty of bees, and the brood departments well filled with brood in all stages of development, so as to maintain the strength of the working force throughout the entire flow. If this holds good for the spring flow, why not for the other flows which are to follow? But this is a little more difficult to do in apiaries where there are old queens, or less prolific ones, for by this time they have done the best work for the season, but young queens will readily occupy the comb in the brood-chamber, if it is not filled with honey, and keep the colonies highly populated right on throughout the entire season, harvesting all the honey possible from each flow, and go into winter quarters in the best possible shape; and for this reason I advocate and urge the bee-keepers to requeen right after the spring flow all colonies that may have old queens, or queens over 2 years old. If this has been done, such colonies can be supered at the approach of each honey-flow, and as the flow from cotton is now on this can be done.

At this season of the year it is folly to set supers over colonies of bees without knowing the contents of the colonies, for the bees will enter them and soil the interior fixtures, and may be gnaw away the comb foundation, or do but little work in them, because the working force is too weak; but if the colonies are strong and active, they will fill the super at once with bees, and begin comb-building and storing honey.

If colonies are not ready for the supers they should be left off, and made ready by giving them prolific queens or plenty of room.

Working Comb Foundation

It is very difficult for bees to work comb foundation at this time of the year, owing to the high temperature which makes it very flimsy. This can be overcome by dipping it in cool water as it is used, and shaking the water off.

Chunk Honey Packed in Barrels

Inquiries have come in recently from honey-dealers relative to shipments of chunk honey packed in barrels and kegs, saying they have been receiving shipments of chunk honey thus packed, and saved considerable transportation charges; and that they repacked it into smaller vessels for the trade. They say if it is packed very closely and carefully, and covered well with extracted honey, that it always arrives in good condition, or the comb unbroken.

I would not know how to pack honey thus, unless it would be to loosen the top hoops and remove the heads of the barrels and kegs, and after well filled with comb, put the heads back, and tighten up the hoops, and finish filling them with extracted honey through a small hole in the heads, then seal up.

The trade is more and more calling for chunk honey, and if it can be thus supplied, it would certainly mean a boon to chunk-honey production.

Frame or Comb Manipulation

The average bee-keeper in Dixie does not handle or examine the combs of his bees. He just buys hives for the bees and puts the swarms in them, and leaves them to thrive or die. And the nearest they come to "culturing" their bees is removing the honey they may have stored. A very small percent of the extensive bee-keepers ever examine the brood-chamber of their hives as much as twice during a season, and only every now and then can one be found who resorts to comb manipulation in a wholesale way throughout the entire season. And it is a wonder that bee-keepers succeed as well as they do here.

But is it worth while, or does it pay to do it? Many times, yes; for profit in the business can only be measured by the amount of proper or prudent comb manipulation the bees have received. The beginner should examine the comb of his bees by the time a swarm has built a set of combs in the brood-chamber. It's the best and quickest way to learn bee-keeping. Just the mere examining of combs will suggest the exchanging of a comb of one colony for that of another, that the bounty of one may supply the need of another.

I know that if comb manipulation is resorted to in a wholesale way throughout each season, much labor is involved, for it is a long, tedious process, but it is interesting, and I don't mind "to dig" so long as I see good results following me up as I go from hive to hive, and from apiary to apiary.

Frame or comb manipulation covers the broader field of bee-culture, and I know of nothing that would add more to the profit side of our industry than a set-up system of comb manipulation by every bee-keeper.

Excessive Use of Smoke on Bees

I have often seen bee-keepers smoke their bees so severely while manipulating frames that the greater part of the bees would boil out at the entrance and cluster under the alighting-board, or around on the sides of the hives, and there remain for several hours before they would all go back into the hive, and from thence to the field, and the general work under full headway again. And this they do, seemingly, not aware of the fact that they have given the bees a great back-set in their work. This is, indeed, poor policy at a time when there is no nectar to be gathered, and, when there is, it is done at the expense of the honey crop. If the nights are cool the bees will not stir much in the early part of the morning, or late in the afternoon; then if they are thus molested or hindered during the warm hours of the day, for several days during a honey-flow, it will mean considerable loss. I would rather use smoke moderately, and endure a few stings, than to sustain the loss.

"Bees and Honey"—the book by Thos. G. Newman—is almost out of print, but we have a few copies left (cloth bound) at 30 cents each. Do you want one? Address the office of the American Bee Journal.

CONTRIBUTED ARTICLES~

Improvement in Honey-Bees

BY ADRIAN GETAZ.

The discussion between Mr. Byer and Dr. C. C. Miller is very interesting. As usual, the Doctor is on the right side of the fence—and his opponent on the other.

In the first place, the assertion that everything has been created just so and can not be changed, and, if it could be changed, dire results would necessarily follow, is not correct. It would be if the works of Nature were inflexible, and arranged so as to dovetail rigidly one into the other. But they are not so. They possess an "elasticity," if that term can be used, that permit them to vary and adjust themselves to various conditions. The changes that have occurred in plants and animals through the geological periods; the difference between the same species or strains according to the climate under which they grow; the still greater changes created in the domesticated plants and animals, furnish ample proof of it.

The size of bees is not, or rather has not always been, as uniform as Mr. Byer seems to think. Turn to Cheshire's works and you will see that the weight of bees from different strains varies from 14 to 20 grains for 10 bees. The old European works state clearly that there were some difference of size between the different strains of black bees, and that the Italians were notably larger than the common run of blacks. Some time ago a strain of dark bees was accidentally found in France that were decidedly larger than the usual races. It may be remembered that a Mr. Murdock, of Florida, succeeded in producing bees quite a bit larger than the common stock.

Nevertheless, these differences have practically disappeared. This is due to the general use of comb foundation of uniform size. It is evident that a bee can not grow any larger than the size of the cell in which she is reared. And if she were, she could not get in it later on to do the work.

Some attempts have been made to increase the size of bees by increasing the size of the cells. A too-large size of cell given at once confuses the bees. A moderate increase has usually failed to give larger bees at once. This could be expected. A larger cell is necessary, of course, but a selection of the queens producing the largest workers is also indispensable to obtain a permanent increase of size. In the experiments made years ago in France, by Dr. Drory, on giving only drone-comb foundation to the bees, it was found that the majority of queens laid only drone-eggs, but there were exceptions. A case occurred in Germany with a queen that lived 4 years, and during all that time never laid a drone-egg, in spite of the fact that several times none but drone-comb was given her, to see what would be the result.

I think there would be a gain in increasing the size of bees. A larger bee would likely fly faster, at least to some extent, for the reason that the resistance of the air does not increase as rapidly as the volume, and consequently the strength of the moving object. Furthermore, a larger bee, possessing a larger tongue, might suck the nectar out of the flowers more rapidly. One point is certain, there would be a saving of time going to and coming from the field, for it would take a less number of trips to bring in the same quantity of nectar.

With a larger size there would be also an increase in the length of the tongue. The measurements made a few years ago show unmistakably that even in bees of the same size there is quite a difference in the length of the tongue. With our present sources of honey the matter is not very important, but it will not be always so. In course of time the woods, wild flowers, and even the pastures filled with white clover, will almost disappear, while the cultivation of the red clover will increase considerably. This is not merely a wild prophecy, but is what has already happened in the best cultivated parts of Europe, and will eventually happen here as well. When that time comes a strain of bees capable to work regularly on red clover will be invaluable.

Will the swarming disposition ever be eliminated? Well, "I don't know." Considering what has been done with other domesticated animals, and the fact that there is a wide difference between the different strains of bees in regard to that disposition, one is justified in saying at once, "Yes, certainly."

But there are two other things connected with the swarming disposition. One is the instinct of building queen-cells or rearing queens, and the other the animosity between queens. One of the two, or both, would disappear with the swarming disposition. Left to themselves, the bees losing these dispositions, would speedily die out. In the hands of the apiarist, it might be different. He could always control the number of queens, and he might rear the queens by giving the necessary eggs or young larvæ to another strain of bees just like we give Leghorn eggs to a hen of another race to hatch. But we haven't got there yet.

Knoxville, Tenn.

* * *

How to Rear Our Queen-Bees

BY G. M. DOOLITTLE.

I think every one will be ready to admit that as good queens can be reared by the bees under the swarming impulse as by any other plan. This was the way under which queens were reared mostly during all the centuries which have passed, down to about half a century ago, and the way by which the bees survived all the perils through which they went, so that when they came to our day they were apparently as hardy and vigorous as they were in the early morn of that day when the Creator of all things pronounced them very good. And the only reason that queens by natural swarming do not now obtain, as in the past, is that queen-bees have, at the present time, become an article of commerce, therefore queens by natural-swarming cells can not keep up with the demand. For this reason some quicker methods of rearing thousands to where tens were once reared has been brought about.

And from this has come the desire to rear queens out of season to meet the demand for queens early in the spring, and a cheaper class late in the fall; those desiring to do this often failing to comprehend that *good* queens can not be reared in the spring until enough young bees have emerged from their cells to make quite a comfortable showing in the hive; neither can *good* queens be reared in the fall after brood-rearing has mainly ceased.

It needs plenty of young bees and a good supply of brood in the hive to rear first-class queens. Without this, no one should undertake to rear queens at all. With this as a foundation, we can supply the lack of pasturage from the fields by feeding. Then, if we can find any colony which shows by its building queen-cells outside of the swarming season that the bees are about to supersede their queen, we can rear as good queens from such a colony, during the time that the old queen lives, as can be reared under the swarming impulse. If the colony thus trying to supersede their queen does not have your best breeding queen with them, and you do not care to rear a large number of cells at that time, all that need be done is to get a piece of comb from the best queen's colony, the same having larvæ in it from 36 to 48 hours old, when you can do what is known as "grafting the queen-cells," which is simply transferring larvæ over from this piece of comb into the royal jelly in the queen-cells the bees have started, after first removing the larvæ that you found floating in this royal jelly. In this way the bees, all unconsciously, go on and perfect a queen from the substituted larva, the same as they would have perfected their own, the same being better cared for, if possible, as it is cradled in a cell rich with royal jelly the instant you put it in.

To make sure that the bees do not "steal a march" on you by tearing down some of these grafted cells and starting others from the queen or brood they have, a 1¼-inch slim wire-nail can be stuck through the comb immediately over the grafted cell, when, if anything of the kind happens, you will know all about it. Then, if you wish to secure as many queens from this colony as possible while the old queen lives, the hive can be opened twice a week and graft all the cells having royal jelly in them at each time of opening, and later, at each opening take out the ripe cells before any queen emerges. In this way, I have taken from 50 to 200 queens from such a colony, each of which proved equally good with the best of those reared from swarming cells.

It is now fully agreed by all, that queens reared under this superseding impulse are equally good with those from natural swarming, and the above is only taking advantage of such a colony to get a more numerous queen offspring than the bees would otherwise mature. If there are not enough cells started by the bees to furnish what queens are desired, the cell-cup plan can be used to good advantage here. In other words, imitation embryo queen-cells are made out of beeswax, into which royal jelly is placed, when a larva from our best breeding queen is transferred to this royal jelly, when from 12 to 20 of these prepared cells are given to this colony that is about to supersede its queen, when the bees will perfect them, or at least most of them, just as they would one of the grafted cells spoken of before. And by giving a batch of these prepared cell-cups twice a week, we can often secure from 500 to 1000 fine queens from this superseding colony before their queen fails entirely.

Why I have dwelt this long on this superseding matter is that even the novice can rear good queens where such a colony is found. And where such a colony can be had early in the season or late in the fall, the bees will do good work, while a colony made queenless will often produce only inferior queens in the hands of the most skilled queen-breeder.

Now, if such a colony can not be found we can rear good queens with strong colonies at any time there are plenty of young bees and brood in any hive. It has been known for some years that where a part of the brood in any colony has the queen shut from it by using the queen-excluding metal to partition off part of the hive, or by putting it over a strong colony, and an upper story containing this brood set on top of this excluder, the bees going and coming through the queen-excluder will work on the same plan they do when superseding a queen. In this way, hundreds if not thousands of bee-keepers rear their queens by the cell-cup plan, as given above, without being obliged to wait for supersedure of queens, swarming of colonies, or anything else.

The thing to look after is that there are plenty of nurse-bees and brood for them to nurse in the part not having the queen, and that they be fed abundantly at any time, or times, when nectar is not coming in from the fields. But there is one item that should not be overlooked in this matter, which is the tendency with some to use too old larvæ. Mr. Cowan has shown that there is no practical difference in the food given all larvæ till they reach 2 days old, the only difference being that a larva in a queen-cell built by a superseding colony is fed more abundantly. But as any larva under favorable circumstances, and less than 2 days old, has far more food supplied to it than it can consume, this extra abundance fed to the one in the queen-cell has no bearing on the subject. But after 2 days old there is a tendency to scrimp on the food, and so it is well to choose a larva under 2 days old rather than over.

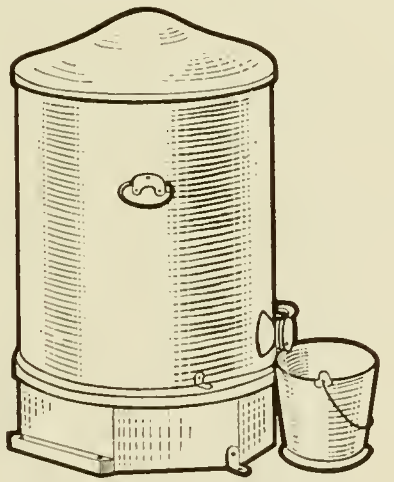
And it is no hard matter to know the ages of larvæ. Take a nice, clean comb and give it to the colony having your best breeding queen, putting the same in the center of the brood-nest. In from 72 to 76 hours the first eggs laid in this comb will have hatched. Look at these larvæ now, and again every 12 hours until they are 2 days old, when it can be told almost to a certainty ever afterward how a larva 36 hours old looks, at which time it is in a proper condition to transfer.

Borodino, N. Y.

Fastening the Honey-Extractor and How to Use It

BY G. C. GREINER.

Does every producer of extracted honey know that securely fastening the honey-extractor is of great importance if we wish to do the most work with the least labor? The swinging motion of the extractor, as it follows the uneven load of the comb-baskets, greatly reduces the efficiency of the centrifugal force by which the honey is thrown out of the combs. The effect is somewhat similar to punching or cutting iron on a soft-wood block—it requires heavier blows, and more of them, to produce the same effect, than it would if a solid anvil were used as a foundation. The same principle applies to the work of a poorly and a substantially fastened extractor. The better and stronger its anchorage to counteract this swinging motion, the less speed and fewer revolutions are required to accomplish a certain object. To think that a few screws or a little nailing down on any haphazard store-box will answer, is a mistake.



Honey-Extractor Fastened For Use.

It requires, in the first place, a sound, solid floor; if it is springy and does not hold the extractor firmly in its place, braces from above may be necessary. The building I used as an extracting room before I had my present honey-house built, had that kind of a floor, and I had to resort to braces fastened to the upper floor. This did very well to keep the extractor from swinging, but it never was very satisfactory the braces were always more or less in the way when moving about.

Then a solidly built stand or bench is the next requirement to give the extractor the desired stability, and when this is thoroughly fastened to a solid floor, we can dispense with the braces from above, and have an extractor that is practically immovable, and will do the best work with the least labor.

After trying different ways of fastening the extractor, which always proved more or less faulty, because I never had the gumption to do it as it should be done, I have now a stand that "stands" where it is placed, and no amount of cranking will disturb it.

The accompanying drawing gives the idea. It consists of a hexagonal, cell-shaped box made of 1⅛-inch lumber, which is covered by a circular top about 3 inches larger than the extractor. This gives a 1½-inch projection all around to receive the screws of the extractor foot-braces. The box has cleats 1¼x1½ inches on two opposite sides, which are nailed edgewise to the lower edge and fastened to the floor by two 2-inch screws each. In addition to these the opposite corners, which are not reached by the cleats, have iron hooks similar to those of the extractor, which are also screwed to the floor. Thus every corner of the box is anchored, and the whole stand forms a foundation, which is, for all intents and purposes, as solid as a block of concrete.

The extractor is so placed on the stand that the honey-gate is in the center of a cleatless side, where a circular notch is cut out of the top to accommodate the pail when the honey is drawn from the extractor.

The height of the stand is determined by the pail we intend to use. It should not be any higher than is strictly necessary, for every inch added to height makes it just so much more unhandy to lift the combs back and forth.

The foregoing may answer as a solution of the first part of the above heading; it is a problem easily solved. Not so the second part—how to use it.

We all know that there is a great difference in honey. Some is thick, some thin, some is new or just made, and some is left on the hive until late in the season. Then there is a great difference in the temperature of the honey, as well as of the atmosphere, and who knows but that the different sources from which honey is made has some bearing on the subject? All these different conditions require different management of the extractor to obtain satisfactory results.

During all my extracting operations I have been groping in the dark. I never knew just what speed to apply, nor how long to run the extractor to throw all the honey out of the combs. By closely watching the extractor, and examining the combs, I was led to adopt a certain amount of speed and number of revolutions, which I thought would be sufficient to give me, reasonably, all that there was in it. Now comes a little experience that knocks all my philosophy into slivers.

At one time last summer, when I was extracting my first honey, I had the comb-baskets full of empty combs, just taken from the extractor, sitting by the door ready to take them out and exchange for full ones. My scales are sitting on the end of the bench near this same door, and more for pastime than for any particular purpose I hardly knew why I did it, I took two of these empty combs out of the basket and placed them on the scoop of the scales. After noting their weight, I took them back to the extractor and went through the same ceremony as I did the first time, when they were full of honey. And what was the result? They weighed 11 ounces—almost ¾ of a pound less than they did when I placed them in the extractor.

I do not say that these 11 ounces would be a positive loss if left in the combs, for I imagine that they would eventually, in one way or another, arrive in the tanks with the rest of the crop. But when extracting 100 combs these 11 ounces would figure up somewhere near 30 pounds, and wouldn't it be unnecessary labor to carry them continually back and forth when a little more time at the extractor would save all this trouble?

When the combs are once in the extractor, it takes hardly a minute to reverse the baskets a second time, and give the combs a second extracting. Only a few revolutions with high speed are necessary to secure those 11 ounces. Reversing the baskets a second time has the effect of "shaking the honey loose," as we might call it, and, if practiced, will certainly produce cleaner combs.

La Salle, N. Y.

* * *

The Wonderful Eyes of Bees

BY C. P. DADANT.

I do not believe that there exists in the entire animal creation a single living being endowed with a better system of vision than the honey-bee.

The eyes of bees are 5 in number—3 small round eyes or "ocelli," arranged in a triangle at the top of the head, and 2 large compound eyes formed of thousands of facets, each of which may be considered as a separate eye.

The ocelli are said by scientists to be those which enable the bees to see within the hive in the dark. Although no positive evidence can be offered, this seems quite evident. The entire organization of the hive, the building of combs, the handling and sealing of honey, the rearing of brood, the making of cells of different shape according to the reqirements, indicate that in addition to the antennæ, which are organs of touch and of feeling, and perhaps also of hearing, the bees must be able to see in dark places. Their actions within the hive are very deliberate, and there is no groping.

It is, however, in the action of their compound eyes, and in the organization of those eyes that the greatest wonders are encountered. We, who enjoy the possession of two eyes only, know how much help they are to us, and realize how necessary they are when we accidentally or temporarily lose the sight of one of them. But the bee's compound eyes are composed, according to the best authorities, of thousands of facets, which are practically separate eyes, and as they are placed at each side of the head they permit them to see in all directions. If we compare our vision (we who have but two eyes) when one eye is closed, with our full sight, we may perhaps gain a faint idea of the power of sight of an insect endowed with 6300 eyes on each side of the head. This is the number of eye-facets approximately counted by Cheshire. These facets face in almost every possible direction—forward, backward, up and down.

Every being is endowed by Nature, through the "struggle for life" and the "survival of the fittest," with the most necessary instruments for the purposes to be fulfilled. The honey-bee, hatched in a dark cavity, a tree-trunk, a cave, is destined, after it has fully matured, to soar about the country, seeking for its food in the broadest sunshine during the hottest time of the year. It needs to fly among trees, high in the air or low down among weeds, reeds and grasses, with the wind bending their twigs in every direction. It leaves its home on a bright day, must recognize the spot and return to it without error, under penalty of death from starvation, fatigue, cold, or the poisonous stings of other bees defending their home against intruders. Thus we see the young worker-bee, at her first flight, and the queen, or the drone as well, turn about in circles constantly increasing, to mark the exact position of the home. So well does the bee ascertain the exact location that if the hive be moved only a few inches, and there is within a short distance some means of comparison, you will see her hunt about the spot where the hive ought to be, even if it is right by.

When hives of similar colors and shape are placed side by side in long files, the bees sometimes make a mistake. This does not happen, however, if there is a tree, a stump—some noticeable object which will enable them to take eye-measurements.

So well have the bees marked the location of their home that it is said by some that they must have a sixth sense, which they call the "sense of direction." They forget that the ability to direct themselves to and from their home is entirely lost as soon as you take them away from the radius of their accustomed flight. It is well known by those who make it a business to transport bees, that if their hives are moved without caution within a radius of 2 miles, the old workers, or a portion of them, will return to the home location. The distance from which they can recognize the direction of their home changes with the topographical conditions. In a very level country, without timber or natural obstructions, they find their location much farther than in situations where hills, large tracts of timber, and other impediments narrow their flight and their view. Where they have never traveled, they lose all sense of direction.

If it were true, as some modern writers would have us believe, that the bee's sight is dim, how could they find their way among trees and branches without difficulty? How could they lower themselves among the grasses, down to the little white clover blossoms modestly hiding itself and brought to their notice only through its fragrance and the smell of the nectar which it carries? How could they find the crack or crevice or the woodpecker's hole in the tree-trunk? How could they find the key-hole in the careless grocer's back door, with the leaky case of honey lying behind it?

The swarm issues and gathers on a limb. A few bees have alighted, then more, then more, till the swarm has settled. Scouts have gone ahead in every direction. They are gone an hour, perhaps two, but soon one of them comes back. She has found a suitable place. How does she tell it? We do not know. But often, though not always, the swarm follows a scout in a bee-line to the hollow tree or the lining of some frame house, between the plaster and the weather-board, or perhaps to some empty hive hidden among the grass and neglected by the careless owner. Here let me say that empty hives with entrance wide open, and inside made ready for a swarm, are much more likely to be occupied voluntarily by a swarm, if placed up on a high stand than if left down in the grass. But the fact that even when left in the grass hives are often entered by swarms, is a very good evidence of their powerful sight.

When you open a hive of bees, if you are careful not to disturb them too much, you will need but little smoke. Then after the combs are uncovered, some of the old bees come to the top to ascertain whence comes the light so extraordinarily given. Make a quick motion and dozens of them will jump at you, resenting the action. Or if two persons stand in front of a hive and the guards become irritated, they fly at the person who makes a quick motion, regarding him as a dangerous enemy, while they leave unmolested the quiet spectator. Should the two ears of a horse appear over the hedge or the fence 40 feet away, when they are in this irritated condition, and should the horse shake them at flies, they will at once pounce upon those ears.

Endless instances could be given of the excellent sight of bees at long or short range. It seems to me that we must acknowledge that few living beings are so well provided in this line as is the honey-bee.

The drones, as it appears, have a still greater number of facets to their compound eyes than the workers. An approximate number of some 26,000 facets have been counted in the eyes of a drone. Think of 26,000 organs of sight in a single living being! Can we have an adequate conception of what this means? And to what purpose? For the pursuit of the queen, evidently. The queen's life is very important to the colony. She goes out to mate, and if she is lost the colony is often helpless. So she must mate promptly. That is why so many drones are reared, and why they have such powerful organs of vision, the strength of which is plainly beyond the powers of our imagination to realize.

That there is a middle point between day vision with the compound eyes and night vision with the ocelli, where the bees are partially blinded, does not, however, admit of a doubt. Working with bees at night shows us that although they can see at very short range, they are unable to see in the dark a foot or two away. For that reason it is unadvisable to handle bees at night.

Hamilton, Ill.

A National Foul Brood Law

BY W. C. MORRIS.

Foul brood is on the increase, and is about as bad in States where there are rigid laws, and inspectors paid to inspect, as in States where there are no such laws. Certain portions of New York State, with a supposedly perfect law, and enough inspectors to do the work, are in a rotten condition. Mr. W. L. Coggshall, of Groton, N. Y., with his out-apiaries in all directions for 20 miles or more, is fighting the disease all the time; and bee-keepers near him are allowed to keep bees in box-hives. The man with one or two hives doesn't care if he has foul brood or not. The bee-keeper with 200 colonies or more near by must suffer for his negligence. There should be a National law passed doing away with the box-hive. I know this will be said by some to be in the interest of the bee-supply men. A man can use a soap-box if he desires, but he would have to make frames to go in that box—a few cents would buy enough ¾x½ inch strips to make these frames.

No bees should be allowed to be moved from one State to another without inspection. I know of one instance where a colony of bees shipped from New Jersey to Long Island were diseased with "foul brood," and although this man had other bees, he discovered something was wrong, sent for one of the New York State inspectors who treated (?) the colony, and told him it was all right; but shortly after he noticed it was not all right. He dug a large hole, and after dark closed the entrance and buried the hive. If he hadn't done this probably the whole of Long Island would now be diseased.

All queen-breeders should have a clean bill of health from the State or National government. There is no law preventing a queen-breeder from selling queens from diseased colonies. Bee-keepers should always change any queens, from the cages they come in, to new cages. If you desire to use the cage again, boil it, and be sure your bees do not get at the candy in the cage.

No honey from a diseased colony should be allowed to be sold. You couldn't pay me to eat it, and I doubt if the Editor would care to eat honey from a stinking, rotten colony in the advanced stages of foul brood. Where does the delicate aroma fit here?

No Cuban honey should be allowed to come to this country; as the whole of Cuba is rotten with foul brood. This also applies to any other foreign country where there is foul brood. Even bees come in from Cuba without examination as to whether they are diseased or not.

In Jamaica, B. W. I., you can not bring a bee into the island; and queens are changed to new cages by the bee-inspector, and the bees and cage burned in the furnace of the ship they came over in.

Some will say, Why not allow diseased honey to be sold? First, foul brood is a filthy disease, and filth and clean honey are not possible. Second, my neighbor, Mrs. Smith, goes to her grocer and buys a bottle of honey; put up by Solomon Isaacs, of New York city, who has bought some diseased New Jersey honey, or some cheap diseased Cuban honey at 5 cents a pound. Mrs. Smith uses all the honey that will run out of the bottle, then throws the unwashed bottle in the ash-barrel. Five minutes later my bees are cleaning the bottle out. Result, foul brood.

It is time we get down to business on this foul-brood proposition. I have never had a diseased colony, but I am anxious and willing to do everything in my power to help those who have, and also to protect myself. If every bee-keeper would examine the bees in his neighborhood, and report suspicious cases to the inspectors, it would help. Look at Jamaica, B. W. I., a hot country conducive to disease, and only one inspector, and not a diseased colony there!

Yonkers, N. Y.

Breeding Out the Swarming Impulse

BY DR. A. F. BONNEY.

The sooner bee-keepers quit thinking of getting a non-swarming strain of bees, and devote their time and energy to learning to control the impulse to swarm, or to devising appliances to aid in this control, the more money they will make out of apiculture. This is a blunt proposition, but the logic of events is proving my contentions, for we seem to be no nearer to a non-swarming strain of bees than we were 50 years ago, while discussions in the bee-papers have brought out statements from some of the oldest men in the profession, showing that but few believe such a sort of bee possible. Moreover, the editors of the bee-papers generally hesitate to endorse the non-swarming idea.

This article is inspired by frequent allusions to the 31st chapter of Genesis (30th in the Douay edition), and while I do not like to drag the Good Book into discussions of this kind, on account of the impression that may get out regarding my soundness in the faith, I feel that a reply should be made, and as not one reader in a hundred has the least idea in the world what said chapter says, and would probably have to borrow a Bible to read it, I shall state briefly that Jacob was to have all the sheep which were spotted, and to get the advantage of his father-in-law he peeled sticks of wood and placed them before the animals during the breeding season, by which means "he was enriched exceedingly." This story has nothing to do with anything but the color of hair on a lot of quadrupeds.

Inasmuch as there are several millions of people in the world who do not even know of the Bible, but do keep bees, this testimony should never have been introduced, but so long as it has, let me suggest that those who believe—because the story is in the Bible—that animals can or ever could be marked by putting striped sticks before them, that they try it. Sheep and goats have not changed one whit since those days, and I assert that limbs or logs of trees peeled and placed before the animals will not make them spotted. If you think it will, try it. Mind you, *belief* is not evidence. The spotting of animals comes from a different cause—the crossing of two animals of the same breed but of different colors, as a black horse and a white one, and when such an animal is bred again to a brown we get what the Mexicans call a "pinto" or "calico," and I have seen them with spots of white, brown, black, and gray thrown in for good measure. Breeding "calicoes" one to another, one frequently gets plain colors, for there is always a strong tendency to revert to the original type.

People who write about breeding tails off of sheep and cats, and horns off of cattle, merely advertise their ignorance of natural history, for the memory of man does not go back to the time when there were not hornless cattle, "mule-toed" hogs and tailless cats, for man did not breed the tail off the Manx cat any more than he did of the bob or wild cat. The cat found in the Isle of Man is a distinct species or variety of the cat, and found nowhere else on earth. Regarding muley, or polled cattle, the Century Dictionary, quoting the American National XXII, 802, says: "Muley cattle have been in Virginia a great many years, and *their descendants have been uniformly polled.*"

The italics in the quotation are mine, for in them is the gist of the argument, for the muley is a distinct breed of cattle just as was the long-horn of Texas—cattle with horns which would measure 6 feet and more from tip to tip. The muley is not from a "sport," nor were the horns bred off by man. If any one doubts this, let him read further:

"The Drumlanrig and Ardrossan herds are extinct. These herds were horned, the latter having latterly become polled *on the introduction of polled bulls from Hamilton.*"

Again the Italics are mine. Now any one with the slightest knowledge of natural history must know that the Androssan *horned* cattle could never have been extinguished by anything but an established blood, *aided by selection*, for Nature is ever trying to revert to the original type, and had the muley been from a "sport," the horned blood would have prevailed and the polled sport would have been extinguished, just as a white rat, or other albino, bred to another of natural color will be first spotted, then in a few generations be wiped out. It may be as well to tell the uninformed that albinos all have pink eyes. They are not a white *breed*.

The finest breed of chickens in the world would soon run out if not fostered by man, for they are originally from "sports" and selection," and if the muley cow was not as old in the history of the world as is the porcupine, the mule-eared deer, and the razor-back hog, we should soon know it, but "their descendants are uniformly polled." The tailless cats of the Isle of Man have always been tailless, so far as we know, and no one knows when the mule-footed hog became so. We know that in the dawn of history the hog was cloven-hoofed, for the Mosaic law was aimed at the filthy hog. The law-givers knew nothing about bacteriology, but they observed that those who ate freely of pork became diseased, and as the priests in those days were the law-makers, what they said "went."

The unknown is always a safe refuge for ignorance, and "because we can not control the male of the bee in mating we can not have a non-swarming strain." What evidence, may I ask, have we that we should be able to perpetuate race suicide in the bees were we able to have control their mating? Not a scintilla. It is a mere theory, and in connection with this I suggest to Mr. Hand that the various bee-papers will find something to discuss long after his non-swarming hive-bottom has been relegated to the scrap-pile.

Mind, I do not claim that we can not somewhat modify the tendency of *some* bees to swarm in *some localities* and in some hives, but just when we least desire that they swarm, off they will come in clouds. The above is written remembering an article in a recent bee-paper where the writer describes a successful method of preventing swarming, then knocks his whole story in the head by telling *about the horrible drouth they had* (1910). Evidently the man did not know that bees will not swarm when there is a drouth on, and mine did not in 1910, when one was impending. One colony built one queen-cell.

"Prove all things and hold fast to that which is good," is as good a rule of conduct now as when first enunciated. Prove that by controlling parentage you can control swarming before stating as a fact that you can; I might go further and say: Prove that a strain of non-swarming bees is a desideratum. Some bee-men seem to think that with non-swarming bees, the honey would come in by the ton where we now get pounds. Would it? I tell you I doubt it. I more than half suspect that if we were to establish such bees, we would find ourselves with a lot of insects which would store only what they needed, for I do not think bees are over-active when about to supersede. Would not the little things find out that they did not have to work so hard? I have learned modesty from Dr. Miller, and will say, "I don't know." Do you?

Little children, let us above all things be precise. An unbelievable assertion that I have cured a hundred cases of rheumatism by the aid of bee-stings will not improve my reputation for veracity; a claim that I have a strain of bees which will under no circumstances and in no kind of hive ever swarm will only provoke smiles of indulgent disbelief; and so on down the list. Consider how little we really know about the animals we are working with; how the need of the almighty dollar stands as a barrier to observation, study and progress. Prove all things, and you will find that since man began handling bees we have learned so little that we are still dreaming of the impossible. Do not, I beg, add to the "hybrid" (mule) error by writing about semi-hibernation, when hibernate means only to pass the winter in a close place. Would semi-hibernate mean to pass half the winter in a close place?

Remember that "belief" proves nothing, and that the word is often erroneously used for *faith*, which, according to the Encyclopedia Britanica, means "the acceptance as true which is *not known to be true*." We may have *faith* in the possibility of a non-swarming strain of bees, but lacking evidence we can not believe it, much less know it.

Buck Grove, Iowa.

Relation of Bees and Flowers

BY W. M. PARRISH.

I will endeavor to show the relation between bees and flowers, as well as the dependence of the one upon the other. Of course, there are other insects that fertilize blossoms, but nearly all the credit should be bestowed upon the honey-bees, as they visit more different kinds of flowers, and in ten times larger numbers than all other insects combined, and at fruit-blooming time all the credit can be given to the bee.

To the farmer and fruit-grower the honey-bee is nothing less than a philanthropist, because if it were not for the busy little bee in its untiring flight from flower to flower, their alfalfa and fruit-trees would not seed and fruit.

Some think that a perfect flower, or, in other words, a flower having both stamens and pistils, fertilizes itself, but there is no end to the ways or contrivances that flowers have to prevent self-fertilization. For instance, in some flowers the stamens or pollen-producing anthers are a great deal lower than the stigma, and the pollen may all drop to the base of the flower, and the ovary go unfertilized; while in the flowers like the milk-weed, the way they are fertilized by the bee, and the contrivances they have to prevent self-fertilization, are simply wonderful and indescribable. This being the case, it can easily be seen that flowers are dependent upon some insect for fertilization, and nine times out of ten it is the honey-bee.

Some think that flowers are fertilized by wind, but there are a very small percent of blossoms fertilized by wind-carried pollen. If any doubt this, it can be proven to their entire satisfaction by selecting a limb on a fruit-tree just before it comes into bloom. First, count the buds, then cover up with mosquito-netting or cheese-cloth. Tie the netting or cloth bag around the limb tightly, so that no insects can get under it, and you will find a very small percent, indeed, if any, set fruit.

Nearly every tree, shrub and flower, with the exception of the grass family, such as corn, millet, timothy, wheat, etc., have their insect, or several kinds of insects, to fertilize their blossoms, and there are a few varieties of plants that have only one kind of insect to carry pollen for them. This is why some plants become sterile when taken from their native land where that particular insect abounds.

When red clover was first introduced into Australia, it would not produce seed until they imported bumble-bees from the United States. This shows a plant having only one kind of insect to fertilize its blossoms, also a perfect flower not fertilizing itself, as, if you will examine red-clover blossoms, you will find it has both stamens and pistils.

Flowers, in order to attract and entice bees to fertilize their blossoms, secrete a very fragrant or aromatic liquid called nectar. The breast and legs of the bee are covered with little, hook-shape hairs, and so constructed that in gathering this nectar the pollen is taken automatically from the flower.

The stigma of flowers secrete a sticky, resinous substance, so as to catch and hold the fertilizing dust or pollen when the pollen-covered legs or breast of the bee comes in contact with it, and it is estimated that one bee visits several hundred blossoms in its course of a single journey, hence it can be readily seen the great value of the honey-bee in cross-pollenization.

In some plants, such as willows, fertilization would be impossible without the help of insects, because such plants are diecious, having their staminate blossoms on one tree, and their pistillate blossoms on another. The bee, after visiting the staminate blossoms for pollen goes to the others for nectar, hence fecundation is effected.

The soft maple, when in bloom, is very interesting as well as unique, for on the same tree or limb you will find two kinds of blossoms—staminate and pistillate, or, in other words, male and female. Staminate blossoms never produce seed—they furnish only the fertilizer, called pollen; as in plant life so it is the same in higher life. The bee transfers the pollen from the stamens of the male blossoms to the pistils of the female blossoms, where it grows, sending a long thread-like tube into the ovary, thus fertilizing the ovule and producing a seed or fruit.

Horticulturists talk about the wind fertilizing their fruit-blossoms, but I am sure that if any one will take the time and pains to investigate he will soon learn that fruit-trees, etc., depend almost entirely upon the industrious little bee for the fertilization of their blossoms.—*Read at the Kansas State Convention.*

Lawrence, Kan.

"The Honey-Money Stories"

This is a 64-page and cover booklet, 5¾ by 8½ inches in size, and printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes; also 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," and "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food-value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies by express for $1.06. A copy with the American Bee Journal one year—both for $1.10. Send all orders to the American Bee Journal.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
Dr. C. C. Miller, Marengo, Ill.
He does not answer bee-keeping questions by mail.

Extracting Supers and Combs from Infected Colonies, Etc.

1. Are extracting supers that have been used on hives infected with American foul brood, after being extracted, safe to use on healthy colonies?

2. Are combs that have contained American foul brood, and later filled with honey by a diseased colony, then extracted, safe to use again on healthy colonies over queen-excluders?

3. Is there any gain with a new swarm of bees by feeding them for a week or 10 days?

4. Is the State bee-inspector paid by the State, or by those whose bees he inspects? Illinois.

Answers.—1. Some say yes, some say no. I suspect that the truth is that sometimes the disease is thereby conveyed, and sometimes not. It will be the safe thing to avoid using them.

2. No.

3. That depends upon the weather and honey-flow. If a heavy flow is on, it is not worth while to feed. If, however, the weather should suddenly turn bad so that nothing could be gathered from the fields, it would pay big to feed; otherwise everything would be at a stand-still, if, indeed, starvation did not result.

4. The State pays.

Transferring Bees from a Cable-Box

How can I tranfer bees from a telephone cable-box on a pole to a standard hive? It must be a plan to move them in about 3 hours' notice. I keep bees at home with success, but have never been able to make a successful transfer from a cable-box. New York.

Answer.—If the combs are clear of the wires, all you have to do is to smoke the bees and cut out the combs; but if the wires are all through the combs I'm afraid it's a rather hopeless case to try to save the combs. You might, however, get out the bees by heavy smoking or using chloroform.

Transferring Bees to New Frames and Hives

I have 6 colonies just now Italianized, in all sizes and kinds of hives. I don't like to interfere now until the honey-flow is over, but would like to transfer all my bees into 10-frame dovetailed hives, as in the old hives all the frames are not wired, and are so difficult to handle. Just yesterday, when it was 91 degrees in the shade, I was examining for queen-cells, and when I held the frame up against the light, off fell the whole comb and the queen on the ground, and I was just lucky to find the queen to-day. Such things would not happen if the frames were wired. Now, would it be too late to remove, transfer the bees by Aug. 1st, from the old hives and combs to the new hives with frames with full sheets of foundation?

I read in Alexander's book that the best way to do this is to place an empty body with frames having full sheets of foundation over the old hive. Then take a brood-frame with the queen from below and put in the upper hives, and put a queen-excluder between the 2 hives, and in 3 weeks the hive below can be taken away, and you have on top a new-made hive, as the bees will carry all the honey from below into the upper hive, and the hive below will contain only old, empty combs, good for wax, and the upper hives can be put on the place of the old hives. Now, I read again the reverse from the breeders. They advise putting the old hives on top, so I would like to know which is the proper, quickest and surest way to transfer, as I stated, after Aug. 1st, so I can have my bees removed on new frames and into new hives, with full storage for the winter. Wisconsin.

Answer.—Whether you can get new combs built out after Aug. 1st depends upon the honey-flow. If there is a heavy fall flow it will be all right; if there is a dearth, it may be a bad failure. So unless you feel pretty sure of a good flow after you give the foundation you would better not undertake it.

Bees will build comb either above or below an excluder. Below seems the more natural way, as bees left to themselves always have their brood below and honey above.

You do not say whether you work for comb honey or extracted. If you work for extracted, you can have your combs built out nicely in the early flow, and without interfering at all with the honey crop. Just before swarming begins, or as soon as bees begin to work well on clover, put the queen with one frame of brood below the excluder, filling out the lower story with frames of foundation, and put a frame of foundation in the upper story. As soon as the queen has made a start at laying on one or more of the frames of foundation—that will likely be in 2 to 4 days—let the old frame of brood in the lower story exchange places with the frame of foundation in the upper story. Eight days after making this last exchange it will be well to kill queen-cells, if any, in the upper story. As fast as the brood hatches out above, the cells will be filled with honey, and the upper story will become an extracting-chamber. In no other way will you probably succeed so well in getting your new combs built. This is just a little variation from the Demaree plan of preventing swarming, and will allow a big crop of honey if the season is favorable.

Brood-Chamber Honey-Bound—Moving Bees to Buckwheat Flow

1. Clover is in full flow here, and while the bees are not as strong as desirable, owing to the late spring, they are working well, but they seem to have too much honey in the brood-chamber. This is mostly old honey, and as my hives are only 8-frame, they need all the space possible for brood. I have no extractor. Is there any way to get this honey from the combs into the sections, or can I make the bees dispose of it in any way?

2. I have 25 colonies of bees which I want to move about 35 miles for a buckwheat flow which begins in early August. The nights are quite cool then. Do you think there would be danger of the combs melting? They are mostly old, and the new ones are wired. New York.

Answers.—1. It is something unusual to have too much honey in the brood-chamber, and you will likely find that there will be no trouble about it. When the bees get to storing in supers, if there is not as much room as they want for the brood, they will most likely empty the honey out of some of the cells and carry it upstairs. If you think they are not doing this as much as you would like, you might uncap some of the sealed honey. You can also take out a comb that is filled with honey, replacing it with an empty comb or a frame filled with foundation. These frames of sealed honey can be kept over until needed, for it would be nothing strange if you might need them this fall, and almost certain that you may need some another spring, for it is the usual thing that frames of sealed honey are needed in the spring. Or, if there is no danger that neighbors' bees would get the honey, you might set out the frames of honey for the bees to rob out, and they would use it the same as honey from the field.

2. If you give the ventilation that is needed for the welfare of the bees, there is little danger of the combs melting down. A spraying of cold water on the way will help matters.

Colony at a Standstill—Putting On Supers

1. I have one colony of bees that seems to be at a standstill, and has been for about 10 to 14 days. They carry some pollen and honey, but are not nearly as active as they should be. I looked into the hive when I first noticed it and found they had brood, and about a week later I looked again and found they did not have as much. They have plenty of honey, so that can not be the trouble. I looked for the queen but could not find her, but I think I did not take enough time to find her. Can you tell what is wrong, and what I can do for her?

2. An old man in this vicinity, who has been keeping bees for about 30 years, told me to put on the super at about clover bloom, and when one-half full put on another one under the one-half full one, and about a week later change again by putting the top one at the bottom, etc. What is your opinion?

3. Another tells me to try the above change about once a week, and to take out the one-pound sections as soon as one is full, and replace by empty ones, and in this way the bees are not so apt to swarm as to put on supers. Iowa.

Answers.—1. I'm afraid the colony is queenless, and that when you examined there was nothing but sealed brood present. If that is the trouble, the remedy is to furnish the colony with a queen or a queen-cell, or else to unite it with another colony, perhaps a weak colony having a good queen.

2. The advice is all right till it comes to that last change, having the two supers exchange places, and instead of that you may find it better to put a third super under as soon as the second is half filled, provided a good flow is still on.

3. It's a good deal of work to take out one section at a time, and you will probably hinder swarming just as much by putting fresh supers under as fast as there is any need for them.

Making Candy for Queen-Cages

How can I make queen-candy for introducing-cages? Colorado.

Answer.—Heat a little extracted honey (don't burn it), and stir into it some powdered sugar. Keep adding all the sugar you can until you have a stiff dough. Even after you seem to have it quite stiff you can still knead in more sugar. Then let it stand a day or so, and very likely you can knead in a little more sugar. No danger of getting it too thin. You will notice that no definite quantities are given, but you will use several times as much sugar as honey. At a rough guess I should say that if you begin with one spoonful of honey you will have 5 spoonfuls of candy. Of course, if at any time you should get in too much sugar you can add honey. It is not really necessary to heat the honey, only it hurries up the work a little.

Moving Bees On the Railroad

I am expecting to move in about 3 months, and the distance is about 40 miles, which will be by railroad, the bees loaded in a car. How shall I arrange them, as I have about 27 colonies in dovetail standard hives. How early can they be moved this fall? New Jersey.

Answer.—By giving enough ventilation you can ship at any time, but perhaps the best time will be just before cold weather sets in, say late in October. Then you will have the advantage of cool weather, with less danger of suffocation, and with less danger of combs breaking down from the heat; whereas, if you wait till very cold weather there is danger of combs breaking, being brittle with the cold.

Put your hives in the car with the frames running from front to rear, that is, parallel with the track. If you do not pile one on top of the other it will be very easy to fasten them in the car. Just nail strips of inch boards on the floor about each hive, so it can not move in any direction. If you pile one on another, then timbers running across the car and fastened with cleats at the sides of the car must keep the hives from moving.

Feeding Foul-Broody Honey—Hive-Covers

1. Yesterday I received a letter from Washington, D. C., telling me the sample of brood was European foul brood. I am at work, and now there is a good honey-flow. I have no extractor, nor is there one near me. Moth had gotten in lots of the weak colonies, so I had to cut them out to save them. I have no time to get an extractor. I will render the wax tomorrow. There will be 100 or more pounds of chunk honey. A little of it is old honey and the balance new. If I boil

it hard, will it be safe to feed back to the bees? If so, how long must I boil it? Must I mix water with it? If so, how much? I do not want to take any chances in feeding it. The honey-flow will soon be over here, and I will need the honey to build up the colonies. This is the first year we have had a good honey-flow for 4 years.

2. I thoroughly boil all the hives and supers. I use a **T**-super with solid separators. Will it be safe to use the separators again if not boiled, or if boiled?

3. I make my hive-covers of 2 pieces. I can not get lumber wide enough for one piece. The crack between the 2 pieces is over the center of the hive, so it is difficult to keep them from leaking. They are made of ⅞-inch pine. If I cover them with tin, and keep them painted, will that make them too warm? They work all right, except the leaking. KENTUCKY.

Answers.—1. Spores have been known to grow after being kept at a temperature of 212 degrees for 2½ hours. So it may be best to boil the honey for 3 hours. If you try to boil the undiluted honey, you will find the outside part may be boiling for some time while the central part is still comparatively cool; also there is much danger of burning. So it is best to use half as much water as honey, and perhaps better still to use equal parts, and let it continue to boil 3 hours after it begins to boil.

2. I would not be afraid to use the separators without boiling.

3. The tin will not make your hive-covers too warm. There is another way you might like to try, which will be cheaper. Paint the cover, and immediately, while the paint is still wet, cover the crack with a piece of cotton-cloth about 3 inches wide, bedding the cloth down in the paint. When dry, paint over the cloth and all.

Colors and Markings of Bees—Saving Queen-Cells—Nucleus

1. I have a tested queen I bought last spring. I introduced her to a colony of hybrids or blacks, and she was accepted by them; all her workers were 5-banded and showed up nicely, but I notice now that about half of the workers are tailed off solidly black. Why is this?

2. When you have say a half-dozen queen-cells in a hive, how do you manage to hatch and save all the queens?

3. Is there any difference in color of the 5-banded Italians and golden Italians? If so, what?

4. What do you mean by "nucleus?" Say 2 or 3 frames of brood and bees—is this what you call a nucleus?

5. How small an amount of bees with queen can be developed into a good colony? TENNESSEE.

Answers.—1. I don't know why there should be any change. Are you sure the same queen is present? The bees may have superseded her, and her daughter, mating with a dark drone, would have darker workers.

2. There is no way in which you can safely keep a number of queen-cells in the same hive except to imprison them in a queen-nursery or in queen-cages. Any number can be kept up to the time the first one hatches out, and then she will make it her business to slaughter her baby sisters in their cradles.

3. So far as I know, they are the same.

4. Yes, a very small colony, consisting of 1, 2, or 3 frames of brood and bees is called a "nucleus."

5. That depends. Given a season long enough, and a single frame of brood with enough bees to cover it might build up into a colony before winter. But that would be quite exceptional. Beginning at the time when nuclei are usually formed, it would generally need 3 frames of brood and bees to be safe; and then it might be a failure if the season should be poor.

Why Bitter Honey?

As I have never seen anything in the American Bee Journal about bitter honey, I wish to ask a few questions about the causes of bitter honey. In this locality we sometimes have an early honey-flow which is very bitter, from some cause or other. The old-time bee-keepers claim it is from hoarhound blossoms, but I have not decided whether it is from hoarhound or not, as chinquapin and wild grapes are in bloom the same time as the hoarhound. The honey has a taste that resembles the smell of chinquapin blossoms. So I laid to the chinquapin the cause of the honey being bitter.

The bees worked extensively on chinquapin and wild grapes this season, which is not common in this section. But they always work well on hoarhound every year. So if it is hoarhound that is the cause, why is it that the early flow is not always bitter every year? My bees worked well on hoarhound last year, and there was not even the slightest bitter taste in the honey. This makes it look as if it might be something else.

Probably some one more experienced in bee-keeping will give the reason why the honey is bitter.

Probably it is the dry weather that is the cause, for it was dry this year when the hoarhound was in bloom. Does any one know whether wild grapes or chinquapin yield bitter honey? Can any one say whether hoarhound blossoms yield honey that is bitter? ARKANSAS.

Answer.—I don't know enough about the matter to help out any, but this will bring the question "before the meeting" so that we may get some information from some one who is informed. Naturally one would rather expect hoarhound honey to be bitter, but it does not always follow that a plant of a certain flavor will produce honey of the same flavor. The honey having the odor of chinquapin would point to chinquapin as the source of the bitterness. I don't know anything about chinquapin honey. If it is of mild odor, then the evidence is pretty strong against it. But if the odor of chinquapin honey is very strong, then it might be that a very little chinquapin honey added to hoarhound honey would give the odor, while the hoarhound would give all the bitterness.

A Beginner's Questions

1. I had a colony of bees destroyed by moth on account of its being queenless. When I saw the bees could not, or would not, get the best of the moth, I took out all the frames and saved about 4 which the moth had not touched. I shook the bees on the ground, and in less than 15 minutes they were with the colony next to where they had been. Did you ever have bees unite that way?

2. When a colony becomes queenless, what is the best way to requeen? Give them a sealed queen-cell or a frame of brood, or what would you do?

3. In taking a frame of brood from some other colony and replacing with a frame with full sheet of foundation, do you think it would set back the bees?

4. And would it keep them from swarming a little longer?

5. When a colony is weak, how do you get them good and strong?

6. Which month in the fall do you think is best for feeding bees in this part of Iowa?

7. What plan do you consider best to increase artificially? Kindly name page in "Forty Years Among the Bees."

8. What is a nucleus? Is it also called "queen-cell?"

9. On page 266, in "Langstroth on the Hive and Honey-Bee," is a cut of queen-cells—rudimentary cell. In seeing this in a frame of comb, does it look as though there is a worm in the cell?

10. Is there no way to tell when the first swarms will come off?

11. Do bees usually hang out before swarming? IOWA.

Answers.—1. I'm not sure I ever had a colony unite with its next neighbor when brushed on the ground, but I have had them do it without being thrown on the ground.

2. A cell just ready to hatch will gain about 12 days over giving a frame of brood, and a laying queen will be about 10 days better still, so if I hadn't the laying queen I would prefer the cell to the frame of brood. If it was very early in the season, I would unite with a weak colony having a good queen, rather than to give the frame of brood.

3. That depends. Early in the season, if the colony has only 3 or 4 frames of brood it would set them back very much. In the full flow it would make little difference to a strong colony.

4. It would have a tendency that way.

5. Let them alone until some other colony or colonies have become quite strong. Then swap one of the frames of brood of the weak colony for one that is nearly all sealed from a strong colony. Or, take from a strong colony a sealed frame with adhering bees, and give to the weakling. Or, shake on the ground in front of the weak colony the bees from a frame of brood, and the young bees will crawl into the weak colony while the older bees will fly back home. Either way may be repeated in a week or 10 days.

6. In August or September if there is no fall flow. In October if there is a fall flow. But when there is a fall flow there is generally no need to feed.

7. It depends upon circumstances. Generally, perhaps the nucleus plan is best—"Forty Years Among the Bees," page 268—although increase without nuclei (page 260) has its advantages.

8. A nucleus is a baby colony, having bees enough to cover one to 3 frames of brood. The plural of nucleus is nuclei; one nucleus, two nuclei. A nucleus is never rightly called a queen-cell.

9. The rudimentary queen-cell referred to is so little advanced that it is almost certainly entirely empty. When it is a little farther advanced an egg will be found in it, and not till 3 days after the egg is there will there be found anything that looks like a worm.

10. Yes; look for queen-cells in the hive. If you find eggs in them, you may expect a swarm inside of 8 or 9 days, and the prime swarm will issue about the time the first cell is sealed.

11. Sometimes, and sometimes not. A colony may hang out without swarming, and it may swarm without hanging out.

Producing Section Honey—National Bee-Keepers' Association

1. How can I make a success in producing section honey? My bees do not work well in sections. This year I used extracting frames and sections alternately in the hives. The extracting frames would be full and capped, and now 2 weeks later the sections are just ready to remove. The extracting frames were replaced, and are full again and ready to extract. Under such conditions does it pay to bother with the sections at all?

2. Of what practical benefit is the National Bee-Keepers' Association to the small bee-keeper? I was a member during 4 years, but aside from getting a copy of the Annual Report I was unable to see that it was of any benefit to me, so I quit. These Annual Reports are good, of course, but each succeeding copy largely duplicates its predecessors. I would resume membership if I could see that the National Association is effective. ILLINOIS.

Answers.—1. "Under such conditions" I wonder that your success with sections was as great as it was. You probably know that it is generally estimated that about 50 percent more extracted honey per colony can be obtained than of comb. And you know that bees will begin to fill honey in drawn-out comb when they will hesitate about starting work on comb foundation. That's the reason that "bait-sections" are used to get the bees to start work. As I understand it, you alternated sections with drawn-out combs. The bees begin to fill the drawn combs, and having room enough in these they saw no need to do much on the foundation until the comb was filled and they needed more room. After a start is made in the super, if you take away the extracting combs, you will be likely to find that the bees will do better on sections. Even then, it may be that you will do better with extracted honey, depending upon your market and other things.

2. A good many years ago a bee-keeper in Wisconsin was sued by a troublesome neighbor, with the charge that the bees drove the sheep out of the neighbor's pasture. A number of us chipped in a dollar each to help the bee-keeper stand the cost of the suit, and that was the real beginning of the present National Association. The Association has helped out many a bee-keeper who has had troublesome neighbors, and been sued by them, and there is no telling how many others would have had trouble if it had not been for precedents established by the Association. Nowadays bee-keepers have little fear that suit will be brought against them, obliging them to move their bees or give up bee-keeping. All that is largely due to the National Association, and all bee-keepers have the benefit of it. The Association has done a little in the line of general advertising to help the honey market, and there is now a project on foot to do much more in that direction. The great trouble is that so many bee-keepers hesitate to pay a dollar for the general good unless they can at once get back two dollars for it. If all would heartily unite, it does not seem a very wild notion to believe that in the near future every dollar paid into the National treasury would bring back ten, if not many times ten.

The Late W. Z. Hutchinson

Continued from First Page.)

remarkable work of her late husband, a unanimous vote was taken to send to Mrs. Hutchinson an expression of sympathy. This was the first assembly of bee-keepers since Mr. Hutchinson's death, and, while there was no official organization, it was decided that such expression should be made, and the letter sent to Mrs. Hutchinson reads as follows:

AMHERST, MASS., June 8, 1911.

MRS. W. Z. HUTCHINSON—

Dear Madam:—On June 6 and 7, 1911, there was held under the direction of the Massachusetts Agricultural College a convention of bee-keepers, which was attended by something over 100 persons from various parts of Eastern United States.

This was the first bee-keepers' assembly since the death of Mr. Hutchinson, the news of which came to us unexpectedly and as a shock. During our morning session of June 7th, several of the prominent bee-keepers announced their sympathy. It was a unanimous expression that the bee-keeping world has lost an individualistic leader, a clear, concise writer, whose place is not soon to be filled. The most sincere sympathy of those assembled is extended to you. It was desired that this be expressed also through the apicultural press.

BURTON N. GATES.

In the foregoing estimate of the life and work of Mr. Hutchinson, and the expression of sympathy for Mrs. Hutchinson in her bereavement, bee-keepers everywhere will unitedly join.

We have received the following tribute from the Hon. Eugene Secor:

In Memoriam—W. Z. Hutchinson

A giant of the oaks the forest knew
Had stood for years among its sturdy kind.
As one that had the stuff of youth within,
And all the sinewy winds that taught reliance.

It had a grip upon the soil that made
It tower above its neighbors round about,
And men said, "Lo, here is a princely tree—
One that the winds may rock but not uproot."

But one sad day the Keeper of the wood
Marked this tall, growing tree for other use,
And then the sapplings and maturer trees
Began at once to say among themselves:

"How the great heart of this strong, Kingly oak
Ever encouraged us to grow and grow,
Toward that which is the good of our desires!
Alas, that he, our friend, should pass so soon."

Forest City, Iowa. EUGENE SECOR.

Bees and Honey at Illinois Fair.—We eave received a copy of the premium list of the Illinois State Fair for 1911, which will be held at Springfield Sept. 29th to Oct. 7th. W. E. Davis, of Libertyville, Ill., is superintendent of the Apiary Department. Any one interested in seeing a list of the premiums offered for the display of bees, honey, beeswax, etc., can secure a copy by writing to Mr. Davis. As usual, the cash premiums are very liberal, and should induce a large number of bee-keepers to make an exhibit. The Illinois State Fair is one of the largest and best in the United States, and its apiarian displays are usually fine.

REPORTS AND EXPERIENCES

Rather Discouraging Outlook

Bees wintered fairly well, but there was but little rain last year and this spring. There is little clover in sight. Prospects are poor. J. H. FITCH.

Bedford, Iowa, May 25.

White Clover Crop a Failure

Our white clover crop is a failure here this year. The bees are just making a living at this time, but basswood has an immense crop of buds just ready to open.

Dunlap, Iowa, June 15. E. S. MILES.

Prospects for Fine Honey Crop

Michigan is very short on bees, but prospects are fine for a honey crop from what bees there are to gather it, especially the north three-quarters of the State.

A. G. WOODMAN CO.

Grand Rapids, Mich., June 8.

Good Results this Season

The results this season have been very good. I have already extracted and sold 180 pounds of clover honey, and expect to secure as much or more in a few days. Had we had more rain, the season would have been much longer. H. F. HITCH.

Harrisburg, Ill., June 14.

A Good Canadian Report

Bees are doing well. Some colonies have given as much as 80 pounds of surplus honey already, and the yield from clover is only about half over. I have had very little swarming so far. I think the honey-flow is too heavy—it keeps the bees too busy gathering, so they have no time to swarm.

EDWARD T. KNOLL.

Clarksburg, Ont., June 22.

Report of the Season So Far

The white clover honey-flow here is over for this season. It was cut short by very dry weather. I started out the past spring with 10 colonies, increased to 18, and produced over 300 pounds of chunk-comb and extracted honey. I get 15 cents per pound for my honey. I made the second trip to town this morning with 70 pounds of honey, and sold it all. F. A. WICKLEIN.

Percy, Ill., June 27.

Prospects Good for Bees

The prospects for the bees in this county are good. I think they are the best that I have ever seen at this time of the year. Bees wintered well, as a rule, all over the county, and the early spring was very favorable, so that they are getting in excellent condition for the honey harvest, which will soon be on, as the first blossoms are opening. The weather has been too dry, but we are having a nice, steady rain that will help greatly.

Caribou, Maine, June 13. O. B. GRIFFIN.

Very Peculiar Season

So far this has been a very peculiar season for bees. The fruit-bloom was profuse and unusually full of nectar. The same may be said of soft and hard maple, and the different kinds of oak. I never before saw bees working on oak-bloom. Honey-dew was in great plenty for a few days in May, and bees stored a small amount in the upper stories. After a few days of honey-dew we had a slight rain, and the honey-dew disappeared as mysteriously as it came. May was very dry, and the clover crop was damaged very materially.

Since May 31st we have had rain enough to start the clover to some extent, and what little bloom there is seems to yield freely of nectar. Basswood is extremely full of bloom, and also of nectar, and the bees are working it for all there is in it.

Our main dependence here for honey is clover, and as the clover crop is short the honey crop will be short. Clover hay will sell here at a premium of 100 percent or better, next winter.

Since I have been keeping bees I have never seen a spring when it was so easy to build up colonies *strong* as the past one. I have never had so many colonies *extra-strong* as now. Out of 24 colonies, spring count, I have had only 6 prime swarms and one afterswarm. Most of colonies seem too busy to swarm. Some of the neighbors report excessive swarming, and many swarms absconding. I am expecting a partial honey crop even if the clover-bloom is a failure.

Cromwell, Ind., June 26. E. H. UPSON.

Very Good Season for Bees

So far this has been a very good season for bees, but I fear the frost we have had during the last week has damaged some of their forage. The shrub called buckberry or ironberry is in full bloom, and the bees are busy working on that; also white clover. I expect a good honey crop, but can tell better after a while. Yet there is no harm in expecting a good crop, anyway.

I find a great many helpful things in the American Bee Journal, and *all* of it is interesting to any one who cares for bees.

MRS. GERTRUDE L. GOODWIN.

Roy, Wash., June 23.

Moving Bees in Cool Weather

I sold 50 colonies of bees to a man in Gardner, Ill., early in March. The weather was quite cold when the bees were prepared for shipment, but it had been warm a few days before so that the bees had had several cleansing flights.

The hives were prepared by nailing cleats at each corner of the hive, so as to hold bottom-boards and covers securely to the hive-bodies, and then a strip of wire-cloth was cut and nailed to close the entrances. Then a cleat about ½-inch space was nailed across the alighting-board about ¼ inch in front of the strip of wire-cloth. There was no ventilation given except that afforded by the ⅜-inch entrances. The weather was quite cold the day the hives were taken to the car, and remained so for several days afterward. The car was a week on the road, but Mr. Howard wrote me that the bees came through in perfect condition. He said there was not a teacupful of dead bees in the whole lot.

At the time I shipped these bees I moved the rest of the bees (nearly 100 colonies) to a new location about 10 rods distant. These were moved on a wheelbarrow, and nothing done to hinder the return to the old location except that a little feed was given, if the weather got so warm that the bees could fly freely. EDWIN BEVINS.

Decatur, Iowa, May 26.

Hemet Valley Association

On May 27, 1911, the bee-keepers of this Valley formed an association to be known as the "Hemet Valley Bee-Keepers' Association," and nearly all the bee-men in this end of the county have joined, or signified their intention of so doing. The officers elected for the first year were as follows: C. J. Davidson, president; W. S. Rather, secretary; and W. B. Tripp, treasurer. There were also elected 5 directors, as follows: J. A. St. John, W. H. Densmore, W. B. Tripp, C. J. Davidson, and Chas. Sims. Rather Bros. were chosen as business agents.

This is regarded as a wise step by the bee-keepers, for the reason that for years they have acted individually in the sale of their honey, generally selling to the first buyer who came along and told them of the immense crops that were being gathered from Maine to Texas, and how cheap the article would be next week, as soon as the real conditions became known, etc.

Realizing the importance of organization to get the best results from their labor, and also realizing the fact that the rearing of bees and production of honey and beeswax in this section of the country are growing each year, and would in the near future, if it does not already, cut some figure in the price of honey in the State of California, they decided to pool their interests and accumulate their output in one place, and advertise to the world the fact that we produce the purest and best honey to be found in our country, and endeavor to create a market for it, especially in the East.

The business managers are making every effort to reach the responsible buyers, and have already received an offer of 7 cents per pound for the entire season's output.

Last year all of our honey was gold at 5¾ cents. Our neighbors in the Imperial Valley got 6 cents for their inferior quality. They were organized—we were not.

The conditions in our section are about as follows: The bees, as a general thing, came through the winter in good shape, there being very little mortality, the bee-men, as a rule, having left them plenty of food to carry them through. The season has been somewhat backward on account of the cold weather, but the late rains were very advantageous, and brought out and kept the flowers in fine bloom, and the reports are that the bees are now working over-time and storing honey very fast. Should these favorable conditions last, the output will be some larger than last year, and the honey will be of a superior quality, there being a larger quantity of white than last season.

W. S. Rather, *Sec.*

Poor Prospects this Season

This is my second year in the bee-business I had 18 colonies, spring count, last year, increased to 28, and got 1100 pounds of comb honey. The prospects are very poor this year. We have had no rain for 2 months, and the clover is almost gone. Bees have almost quit work. I have had no swarming yet. D. C. Pugh.

Columbus Grove, Ohio, May 17.

Poorest Season in 8 Years

This is the poorest season for bees that we have had here for 8 years. Clover is all dead, and the drouth has been so severe that there will be no fall honey-flow. I am feeding bees right now to keep them from starvation, just when the flow should be at its best. D. G. Little.

Hartley, Iowa, June 28.

No Honey this Year

There will be no honey here this year, either for home trade or for shipment. The total gain for my strong colony on scales was less than 50 pounds, and the white clover flow is all over. I can remember but one year so bad. I think that was in 1901, and the next year made up for the failure, as my apiary in 1902 averaged nearly 250 pounds surplus per colony.

Well, we bee-keepers are a happy lot, always looking ahead. I expect next year to be in the game again, but we are surely "out of running" now for this year. We had a very wet spring, but it turned out very dry at a fatal time for white clover. There is probably enough honey to tide us over until fall. If there is a good fall flow we may not have to feed. Bees did not swarm at all here. They seemed to know all about it better than I did. Irving E. Long.

Marceline, Mo., June 13.

Smoking Bees at the Hive-Entrance

It is rather amusing as to the different ideas that men have who have been in the bee-business, and naturally have had the same experience. One says not to inject smoke at the hive-entrance; another, just as good authority, says he always does when manipulating.

I do not wish to comment on what Dr. Miller, D. M. Macdonald, or W. Woodley says, but it seems to me there are times when it is best to use smoke, and other times it is best not to use it. For instance, when we are extracting, and a good honey-flow, it only confuses the bees at the entrance to smoke them, and has no effect on the bees we are handling; but when there is nothing doing, and the bees idle, we certainly need some smoke at the entrance. They are watching for a job, and will soon get busy if smoke is not used.

In many respects bees are much like people. When men are idle, they are on the alert, noticing everything going on; but if busy, and plenty of work, they take very little notice of what is going on around them. It is the same as with J. E. Chambers' plan of prevention of swarming—the bees have plenty to eat, and all the room they need, so they are not crowded; of course they don't care to move, neither would we. If Mr. Chambers were in some localities, with all the ventilation and room possible, I think he would have swarms, and plenty of them. It depends much upon how the honey-flow begins. With a light flow continuously, bees will swarm, not caring much—are not storing much, and would just as soon have a big time as not; but if a heavy flow, they haven't time to swarm; they wait until the heavy flow is over, then swarm. They do here in California, sometimes, at least. They did 2 years ago. Quite a few colonies swarmed in August, and the last extracting was done about the first of July.

This is a cold, late spring; bees were in bad shape; at least 50 percent died; but they have built up fast. The honey-flow is on, and we expect a fair crop. Geo. W. Rich.

Simi, Cal., May 22.

Honey Crop Better

The honey crop has been a little better than ordinary in this locality this year, so we have harvested a good crop.

Lanark, Ark., June 26. E. M. Callaway.

Looks Bad for Bee-Men

It looks bad here for bee-men this year. My prospect is for not over 300 or 400 pounds from 50 colonies, from the clover and basswood and I think mixed considerably with honey-dew, and nothing so far to indicate a fall flow. I have had only 2 swarms. Just the "rompers" have put up any surplus, and I will say the American Bee Journal and one other strain have divided honors as leaders!

Cainsville, Mo., June 28. J. French.

Poor Prospect for Iowa White Clover

Unless Dame Nature supplies a substitute for white clover, I fear Iowa will not flood the market with honey this year. Except for a very few much-favored places where it was protected by snow, or supplied with moisture in some other way, white clover is all dried out. In open fields one would need a "search warrant" to be able to find even a lonely plant. What is true of this locality (Buena Vista Co.) is also true of the entire northwest corner of this State, at least. The meager rains, along with the small amount of moisture from the winter snow, have been ample up to the present time for cultivated crops, but unless we can get frequent showers even the corn and other grain will suffer. It has been too dry for the germination of the clover seed; hence, unless heavy rains come very soon to start the clover from the seed, the effects will be felt for another year or two.

Both yellow and white sweet clover are in good evidence along roadsides and waste places. This will help out considerably. Milkweed, too, will not be affected by the drouth, and is in good evidence, probably, all over the State. Good weather through fruit-bloom has resulted in fine fertilization of the bloom by the bees, and the trees are already groaning under the weight to which they are subjected. F. W. Hall.

Storm Lake, Iowa, June 5.

Special Car for Minneapolis.—We have arranged with the Chicago & North-Western Railroad for a special observation and electric-lighted Pullman sleeping car to leave its New Chicago Terminal (see last page) at 6:45 p.m., Aug. 29th, and arrive in Minneapolis the next morning at 7:55 o'clock—in ample time to attend the first session of the National convention. The round-trip railroad fare from Chicago will be $16.00, with a return time-limit until Oct. 31, if desired. The berth rate in the Pullman sleeper is $2.00 for a lower berth, or $1.60 for an upper.

We hope that just as many bee-keepers from the East and South will plan to assemble here in Chicago on Aug 29th, so as to go on "in a bunch" from here to Minneapolis. It will give us a pleasant evening together. We will be glad to make berth reservations for all who will notify us up to the day before starting. Next month we may have more particulars to announce. In the meantime make your arrangements to join this car-load unless you live in the wrong direction to avail yourself of it.

California Honey Crop and Prices.—Mr. W. A. Pryal, of Oakland, Cal., who is not only a bee-keeper, but keeps in close touch with things apicultural on the Pacific Coast, and particularly in California, has sent us the following paragraphs taken from the Oakland Enquirer, on June 23, 1911, which shows the honey conditions and prespects in California for 1911:

> With fewer bees because of the hard winter and a shorter time for them to work, due to a late season, the price of honey stands at such a high level that there is no speculation on the present market, buyers say.
>
> The total honey crop this season, it is predicted, will be a little more than half the production of a normal year. Honey brokers say the buyers they have sent out report that the prospective yield in the seven Southern California counties and the Sacramento Valley, a total of 225 carloads from the State.
>
> The yield in a normal year is between 350 and 400 carloads. Last year's crop was little larger than that predicted for this year.
>
> The season, which lasts for about 100 days ordinarily, started about 10 days late, and will be that much shorter. The white honey crop now is at its best. The amber season will be at its height in a week or two.
>
> White honey started the season and is holding firm at around 7½ cents a pound, carload lots to Eastern buyers, which level was not reached until late in the season last year. This season's present price is from 1 cent to 1½ cents above normal for the whole crop. Amber is holding firm at from 6¼ to 6⅜ cents, carload lots for the East. The market is stable for both grades. Trading is as required for actual orders only, dealers say.
>
> It is to the hard winter that the honey shortage generally is attributed. The first rains of the season were early, and when the late, cold rains came the bees were in a weakened condition and could not combat the elements. Apiarists generally report their losses from one-third to one-half their colonies.
>
> However, conditions are not so bad as first seemed probable. The alfalfa is in excellent shape, it is reported, and the few bees are doing their best work now in favorable weather.

Connecticut Field-Day.—Allen Latham, A. W. Yates, and E. C. Griswold will give demonstrations at the annual Field-Day of the Connecticut Bee-Keepers' Association, Saturday, July 15, at the apiary of Mr. Yates, Foul Brood Inspector, 3 Chapman St., Hartford. All welcome.

Jas. A. Smith, *Sec.*

Hartford, Conn.

"The Amateur Bee-Keeper"

This is a booklet of 86 pages, written by Mr. J. W. Rouse, of Missouri. It is mainly for beginners—amateur bee-keepers—as its name indicates. It is a valuable little work, revised this year, and contains the methods of a practical, up-to-date bee-keeper of many years' experience. It is fully illustrated. Price, postpaid, 25 cents; or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE—160-lb. honey-kegs at 50c each f. o.b. factory. N. L. Stevens, Moravia, N. Y.

CYPRO-Carniolan Queens—Untested, 75 cts. Ed L. Roser, 5408 Euclid Ave, Suite 12, Cleveland, Ohio.

FOR SALE—Tested Italian Queens, $1.25; Untested, 75 cts. each.
W. Simpson, Meyer, Ill.

QUEENS from my EDUCATED strain of Golden Italians. $3.00 to $100. 5A4t
Henry W. Britton, Stoughton, Mass.

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey.
5Atf Ogden Bee & Honey Co., Ogden Utah.

FINE Golden Italian Queens—Tested, $1.00; Select Tested, $1.25; Untested, 60c; dozen $7.
6A2 D. T. Gaster, Rt. 2, Randleman, N. C.

ITALIAN Untested Queens, 75 cents; Tested, $1.25. Breeders, $5.00 each. E. M. Collyer,
8A12t 75 Broadway, Ossining, N. Y.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address,
12Atf T. F. Bingham, Alma, Mich.

WANTED—8 pounds live bees—no queens. Delivery any time before Sept. 1st. Quote best price. Halsey Bros. Co.,
645 St. Clair St., Chicago, Ill.

FOR SALE—About one hundred Black and Hybrid Queens; all young and prolific. Six for $2.50; one doz., $4.50. 7A2t.
D. E. Brothers, Jacksonville, Ark.

FOR SALE—Golden Queens that produce 50 to 100 percent 5-banded bees. Untested, $1; Tested $1.50; Select Tes. $2; Breeders, $5 to $10
8A12t J. B. Brockwell, Bradley's Store, Va

FOR SALE—A Kenmore automobile delivery car; most handy for a bee-keeper with an out-apiary. Will sell cheap. In A No. 1 running order. Almost new. Address,
7A1t Louis Werner, Edwardsville, Ill.

YOU MAY ORDER Root's Bee-Supplies from any catalog published by them, and send me the order. I'll get it to you in quick time. Or call yourself on Geo. S. Graffam, Valley Ave., Bangor, Maine.

ITALIAN QUEENS from imported and home-bred stock—the best in the world, 75c each; 6, $4.00; 12, $7.50. Tested, $1.25 each. Safe arrival guaranteed. N. Forehand,
5Atf Ft. Deposit, Ala.

SECOND-HAND CANS—Good ones, two 5-gal. in a box 5 boxes at 40 cts. a box; 10 boxes at 35 cts. a box; or 20 boxes at 30 cts. a box. Address, George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

ITALIAN QUEENS, good as the best; untested, 75c; tested, $1.00. Shipments begin April 1st for Bees by the Pound and Nuclei. Write for prices. C. B. Bankston,
5Atf Buffalo, Leon Co., Texas.

FOR SALE—5000 lbs. Yellow Sweet Clover Seed, new crop biennial.; 4 lbs. hulled, by mail, prepaid, $1.10; 50 to 100 lbs., 15 cts. per lb.; unhulled, 3 cts. per pound less. Alfalfa Seed, $16.00 per 100 pounds. 7Atf
R. L. Snodgrass, Rt. 4, Augusta, Kan.

GOLDEN QUEENS very gentle, very hardy, and great surplus gatherers. Untested, five and six band, $1.00; select tested, $3.00; also nuclei and full colonies. Send for circular and price list to Geo. M. Steele,
5A3 30 So. 40th St., Philadelphia, Pa.

Colonies of Italian bees in L. hives. 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2A1t

FOR SALE.—148 acres of mixed land, a 6-room house with cellar, a good well of water in yard—in Victoria County, 9 miles from P. O. A fine location for a small apiary Will sell for $25 per acre—half the amount down, and balance on good payments to suit the buyer. Direct all enquiries to—
F. W. Coleman, Whittaker, Burleson Co., Tex.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

BEESWAX WANTED.—We are paying 28 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ill.

FOR SALE.—A box containing 35 pounds of Extra Thin Surplus Foundation made last winter by Dadants, from my last year's beeswax. The box has not been opened. Ready for shipment. On account of dry weather I can not use it this season; will make discount. Also volumes of the American Bee Journal since about 1893—some in Wood Binders. Also a large number of volumes of Gleanings, and also some parts of volumes of the Bee-Keepers' Review. A Reitsche Press, and Lewis Foundation Fastener. Let me know what you want.
Edwin Bevins, Leon, Iowa.

NATIONAL LETTER-HEADS.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business-like. Every member of the National ought to use these letter-heads. They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at these **prepaid** prices, which are "cash with order:" 250 sheets, $1.30; 500 sheets, $2.00; 1000 sheets, $3.75. All orders are to be sent to Mr. France.

Poultry

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

Honey to Sell or Wanted

FOR SALE.—Choice light-amber extracted honey thick, well-ripened, delicious flavor. Price 9 cents per lb. in new 60-lb. cans.
2Atf J. P. Moore, Morgan, Ky.

WANTED — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin

FOR SALE. — Absolutely pure California sage extracted honey; several cars white and light amber, in 60-lb. tins, two tins to a case. Write us for samples and prices.
Rather Bros., Managers,
Hemet Valley Bee-Keepers' Association,
7Atf Hemet, Cal.

Advertising Honey for Sale.—More and more as the seasons come and go, those who deal in honey consult the advertising columns of the American Bee Journal when they want to buy honey. If you have harvested a good crop, it will doubtless pay you well to offer it through our advertising columns. You will find rates in the first column on the second page. There is no reason why you should not get a cent or two more a pound for your honey if it is all good quality and in good shape for safe shipping. If you have never advertised honey for sale, suppose you begin this fall. A 12-line advertisement in our classified columns would cost only $1.80, or a 6-line advertisement only 90 cents, per month. Most of those who have honey for sale can easily get their announcement into 6 lines. Suppose you begin with the next number, and keep it going for a few months. If you have the right kind of honey, and ask the right price for it, we think there is no question of your disposing of it at enough higher price not only to pay your advertising, but also to pay you handsomely for the extra effort made in shipping your honey. All advertisements should be in our office not later than the first of the month for that month's number. Should it be delayed not later than the 5th or 6th of the month, it may yet be in time for it to appear, depending upon whether or not the forms are closed when your advertisement arrives. There ought to be several pages of advertisements offering honey for sale in the American Bee Journal every month for the next 6 months. Suppose you try this plan and see how it works.

◆

"Southern Bee-Culture" is the name of a booklet written by J. J. Wilder, perhaps the most extensive bee-keeper and honey-producer in the whole State of Georgia. It is a real hand-book of Southern bee-keeping, with methods so simply described that they are easy to carry out. Every bee-keeper, especially in the South, should have a copy of Mr. Wilder's booklet. He conducts apiaries by the dozen, and produces many tons of honey every season. He tells in careful detail just how he does it. The price of this booklet is 50 cents, or we now club it with the American Bee Journal for a year—both for $1.30. Send all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

◆

"A Year's Work in an Out-Apiary" is the name of a booklet by G. M. Doolittle, the well-known honey-producer of New York State. He tells how he secured an average of 114½ pounds of honey per colony in a poor season. It is fully illustrated, and tells in detail just how Mr. Doolittle has won his great success as a honey-producer. The price of the booklet is 50 cents, postpaid, but we club it with the American Bee Journal for a year—both for $1.30. Every bee-keeper should have a copy of this booklet, and study it thoroughly. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

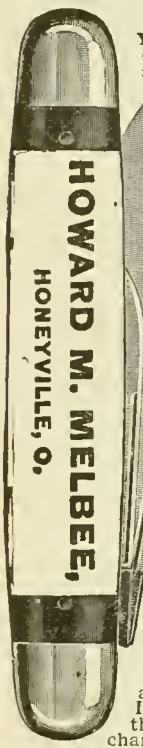
SPECIAL CLUBBING AND PREMIUM OFFERS

In Connection With The

AMERICAN BEE JOURNAL

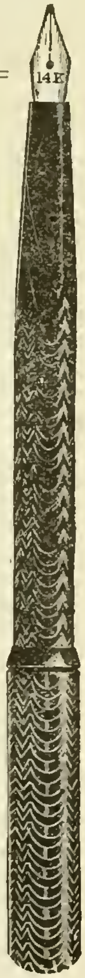
Sample copies free, to help you interest your friends and get subscriptions. If you will send us names of your neighbors or friends we will mail them sample copies free. After they have received their copies, with a little talk you can get some to subscribe and so either get your own subscription free or receive some of the useful premiums below. They're worth getting. **We give you a year's subscription free** for sending us 3 new subscriptions at $1.00 each.

BEE-KEEPERS' NOVELTY POCKET-KNIFE



Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.10. With year's subscription, $1.90. **Free** for 3 new $1 subscriptions.

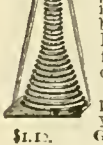
BEE-KEEPER'S GOLD-NIB FOUNTAIN PEN



A really good pen. As far as true usefulness goes it is equal to any of the higher-priced, much-advertised pens. If you pay more it's the **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard-rubber, handsomely finished. The cover fits snugly and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown ⅔ actual size.

Price alone, postpaid, $1.00. With a year's subscription, $1.70. **Given free** for 3 new subscriptions at $1.00 each.

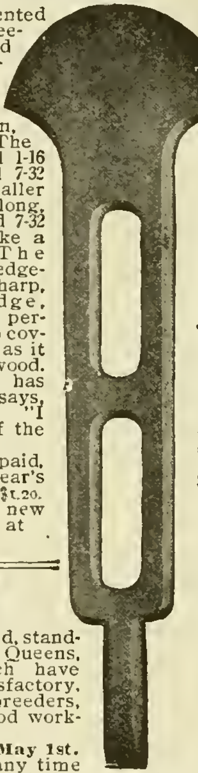
QUEEN-CLIPPING DEVICE



The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4⅓ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

Price alone, postpaid, 25 cents. With a year's subscription, $1.10. **Given free** for 2 new subscriptions at $1.00 each.

IDEAL HIVE-TOOL



Exactly half actual size.

A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apairy. Made of malleable iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1 7-8 inches long, 1-2 inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, January 7, 1907: "I think as much of the tool as ever."

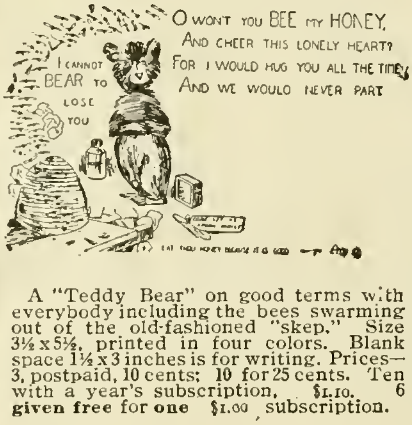
Price alone, postpaid, 40cents. With a year's subscription, $1.20. **Given free** for 2 new subscriptions at $1.00 each.

PREMIUM QUEENS

These are untested, standard-bred, Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.

Sent only after May 1st. Orders booked any time for 1908 queens. Safe delivery guaranteed. Price, **90** cents each, 6 for $4.50. or 12 for $8.50. One queen with a year's subscription, $1.60. **Free** for 2 new $1 subscriptions.

HUMOROUS BEE POST-CARDS


O WONT YOU BEE MY HONEY,
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME,
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

A "Teddy Bear" on good terms with everybody including the bees swarming out of the old-fashioned "skep." Size 3½ x 5½, printed in four colors. Blank space 1⅛ x 3 inches is for writing. Prices—3, postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, $1.10. 6 **given free for one** $1.00 subscription.

BOOKS FOR BEE-KEEPERS

Forty Years Among the Bees, by Dr. C. C. Miller.—334 pages, bound in handsome cloth, with gold letters and design, illustrated with 112 beautiful half-tone pictures, taken by Dr. Miller. It is a good, live story of successful bee-keeping by one of the masters, and shows just how Dr. Miller works with bees. Price alone, $1.00. With a year's subscription, $1.75. GIVEN FREE for 3 new subscriptions at $1.00 each.

Advanced Bee-Culture, by W. Z. Hutchinson.—The author is a practical and helpful writer, 330 pages; bound in cloth, beautifully illustrated. Price alone, $1.20. With a year's subscription, $1.90. GIVEN FREE for 3 new subscriptions at $1.00 each.

A B C & X Y Z of Bee Culture, by A. I. & E. R. Root.—Over 500 pages, describing everything pertaining to the care of honey-bees. 400 engravings. Bound in cloth, price alone, $1.50. With a year's subscription, $2.25. GIVEN FREE for 5 new subscriptions at $1.00 each.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—How the very best queens are reared. Bound in cloth and illustrated. Price alone, $1.00. With a year's subscription, $1.50. GIVEN FREE for 2 new subscriptions at $1.00 each. In leatherette binding, price alone, 75 cents. With a year's subscription, $1.25. GIVEN FREE for 2 new subscriptions, $1.00 each.

Bee-Keepers' Guide, or Manual of the Apiary, by Prof. A. J. Cook.—This book is instructive, helpful, interesting, thoroughly practical and scientific. It also contains anatomy and physiology of bees. 544 pages, 295 illustrations. Bound in cloth. Price alone, $1.20. With a year's subscription, $1.90. GIVEN FREE for 4 new subscriptions at $1.00 each.

Langstroth on the Honey-Bee, revised by Dadant.—This classic has been entirely rewritten. Fully illustrated. No apiarian library is complete without this standard work by "The Father of American Bee-Culture." 520 pages, bound in cloth. Price alone, $1.20. With a year's subscription, $2.00. GIVEN FREE for 4 new subscriptions at $1.00 each.

The Honey-Money Stories.—64-page booklet of short, bright items about honey. Has 33 fine illustrations, and 3 bee-songs. Its main object is to interest people in honey as a daily table article. Price 25 cents. With a year's subscription, $1.10. GIVEN FREE for one new subscription at $1.00. Three copies for 50 cents; or the 3 with a year's subscription, $1.30; or the 3 copies GIVEN FREE for 2 new subscriptions at $1.00 each.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keepers' handbook of 138 pages, which is just what our German friends will want. It is fully illustrated and neatly bound in cloth. Price alone, $1.00. With a year's subscription, $1.70. GIVEN FREE for 3 new subscriptions at $1.00 each.

THE EMERSON BINDER

A stiff board outside like a book-cover with cloth back. Will hold easily 3 volumes (36 numbers) of the American Bee Journal. Makes reference easy, preserves copies from loss, dust and mutilation. Price, postpaid, 75 cents. With a year's subscription, 1.50. GIVEN FREE for 2 new subscriptions at $1.00 each.

WOOD BINDER

Holds 3 volumes. Has wood back but no covers. Price, postpaid, 20 cents. With a year's subscription $1.10. GIVEN FREE for one new subscription at $1.00.

BEE-HIVE CLOCK

A few of these handsome "bronze-metal" clocks left. Base 10 1-2 inches wide by 9 3-4 inches high. Design is a straw skep with clock face in middle. Keeps excellent time, durable and reliable. Weight, boxed, 4 pounds. You pay express charges. Price, $1 50. With a year's subscription, $2.25. GIVEN FREE for 5 new subscriptions at $1.00 each.

George W. York & Co., 117 North Jefferson St., Chicago, Ill.

QUEENS of MOORE'S STRAIN of ITALIANS

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

My Queens are all bred from my best long-tongued three-banded red-clover stock no other race bred in my apiaries, and the cells are built in strong colonies well supplied with young bees.

PRICES:—Untested Queens, $1.00 each; six, $5.00; doz., $9.00. Select Untested, $1.25 each; six, $6.00; doz., $11.00. Safe arrival and satisfaction guaranteed. Descriptive Circular Free. Address. 6Atf

J. P. Moore, Queen-Breeder,
Rt. 1., Morgan, Ky.

Please mention Am. Bee Journal wheo writing

QUEENS

Mismated and Hybrid Queens ...	$0.35
Tested Italian Queens 1 year old	.50
" " " 2 " "	.75
Young Untested Italian Queens..	1 00
Young Tested " "	1.50

All good, business stock. Safe arrival guaranteed. 7Atf

E. W. Brown, Box 17, Willow Springs, Ill.

OUR NEW SECTIONS

Of the best Wisconsin Basswood, are

The Finest in the World

All our Goods are O. K. Would like to hear from you. Send for Catalog. Our prices will surprise you.

H. S. DUBY, St. Anne, Ill.

Missouri-Bred Queens!

My strain of bees is the result of many years' breeding and selection. I believe they are equal to any, and surpassed by none. They are long-lived, winter well, breed early, and are unexcelled honey-getters. The workers are long-bodied, good-sized bees, uniformly marked with bands of orange yellow. They are good comb-builders, gentle and easy to handle, and yet protect their homes from robbers. You will make no mistake in introducing these queens into your apiary. I guarantee safe delivery at your post-office, and make a specialty of long and difficult shipments. I endeavor to keep a large supply of queens on hand. Prices as follows:

Untested—1, 60c; 6, $3 25; 12, $6.00. Select Untested—1, 75c; 6, $4.25; 12, $8.00. Tested—1, $1.25; 6, $5.50; 12, $12.00. Select Tested—1, $1.50; 6, $8.00; 12, $15.00. Two-comb Nuclei with laying queens, $3.00 each; 3-comb Nuclei with laying queens, $3.50 each. Discounts on large orders. 7A4t

L. E. ALTWEIN, St. Joseph, Mo.

MILLER'S STRAIN Red Clover Italian Queens

Bred from my superior breeder for business; gentle; no better hustlers; bees just roll honey in; three-banded; northern bred; hardy and vigorous; winter well; not inclined to swarm; bred from best leather-colored, long-tongued, red-clover strains. Untested, $1.00; six, $5.00; dozen, $9.00. Select untested, $1 25; six, $6.00; dozen, $11.00. Circular free. Satisfaction guaranteed. Isaac F. Miller, of Reynoldsville, Pa., a queen-specialist, is my apiarist and manager, who has been before you quite a number of years.

J. S. Miller, Rt. 2, Brookville, Pa.

Please mention Am. Bee Journal when writing.

A Few Dollars Invested on Easy Terms in a

Twin Falls, Idaho, Orchard

will insure

An Income For Life

sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

A Source of REVENUE

Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

By calling at our office, or writing us, you can obtain full information.

Twin Falls Co-operative Orchard Co.
881 Stock Exchange Bldg., Chicago, Ill.

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases.

In the spring of 1899, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year, he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

Prices after July 1	1	6	12
Select queens................	$ 75	$ 4 00	$ 7 00
Tested queens................	1 00	5 00	9 00
Select tested queens.........	1 50	8 00	15 00
Breeders.....................	3 00	15 00	....
Golden five-band breeders..	5 00	....	....
Two-comb nuclei, no queen	2 25	12 00	22 00
Three-comb nuc., no queen	3 25	18 00	32 00
Full colonies on 8 frames...	5 00	25 00	....

Queens Now Go by Return Mail

Add price of whatever grade of queen is wanted with nuclei and colonies. No order too large, none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5Atf

QUIRIN-THE-QUEEN-BREEDER,
BELLEVUE, OHIO

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for July to Nov.

One Untes. Queen...	$0.75
" Tested " ..	1.10
" Select Tes. " ..	1.30
" Breeder Queen..	1.85
" Comb Nucleus—no queen........	.80

Safe arrival guaranteed. For prices on larger quantities, and description of each grade of Queens, send for for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

Please mention Am. Bee Journal when writing.

I Breed Golden Queens

By the best known method, selected of the Best honey-gatherers, and for Beauty and Size of bees, with the care that the best of apiary-men can give, which makes a fine Queen in quality.

Price, Untested, $1.00 each.

I guarantee satisfaction or your money returned, and safe arrival. 6Atf

M. Bates, Rt. 4, Greenville, Ala.

Please mention Am. Bee Journal when writing.

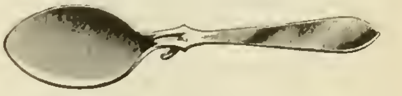
CORN HARVESTER with Binder Attachment cuts and throws in piles on harvester or winrow. Man and horse cuts and shocks equal with a corn Binder. Sold in every state. Price $20 with Binder Attachment. S. C. MONTGOMERY, of Texaline, Tex., writes:—"The harvester has proven all you claim for it. With the assistance of one man cut and bound over 100 acres of Corn, Kaffir Corn and Maize last year." Testimonials and catalog free, showing pictures of harvester. **New Process Mfg. Co., Salina, Kan.**

Please mention Am. Bee Journal when writing.

Pearce Method of Bee-Keeping

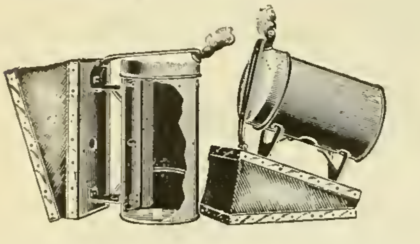
This is an illustrated pamphlet 6x8⅓ inches, "explaining the keeping of bees successfully in upper rooms, house attics or lofts, whereby any one either in city or country is enabled with only a small expenditure of labor to get a good supply of honey without coming in contact with the bees, and without having the bees swarm out and leave, or being troubled from stings, as you work on one side of the wall and the bees on the other. This method also tells the commercial bee-keeper how he can divide his bees when he wishes to, instead of waiting and watching for them to swarm. It can all be done on the same day, or days if more than one apiary, as the time required for this operation is merely nominal, no swarms issue and go away. These methods are fully explained in this book, and how to care for the bees on the Pearce plan."

We mail this pamphlet for 50 cents, or club it with the American Bee Journal one year—both for $1.10. Send all orders to the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.



This fine 90c Honey-Spoon and the American Bee Journal for one year—both for only $1.75. Send all orders to to George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

Gold Medals St. Louis Exposition, 1904.
Jamestown Centennial, 1907.



Danzenbaker ½ Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate,** forcing air **both ways,** makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest net capacity** of all smokers, selling at one dollar ($1.00). We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail	$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail	1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail	1.00
With American Bee Journal one year, about 400 pages, by mail	1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,
68-70 Woodside Lane, NORFOLK, VA.

THE FAMOUS
Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
Tested— each, $1.25; per dozen, 12.00

If you wish to swell your means, Just try my Famous Texas Queens

GRANT ANDERSON,
2Atf **San Benito, Texas.**

Please mention Am. Bee Journal when writing.

Queens Ready to Mail

Fine Red Clover Italian Queens—they are hustlers. Try them. Every Queen a breeder. They are reared exclusively from A. I. Root's and J. M. Davis' stock.

Untested, 60c; Tested, $1.00; Select Tested, $1.25; Untested, per dozen, $7.00.

Also, Fine Golden Italian Queens for sale. Untested, 60c; Tested, $1.00; Select Tested, $1.25.

H. B. Murray, Liberty, N. C.

Please mention Am. Bee Journal when writing.

Queens Ready Now!
Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3 Band	Untested Queens,	1, $ 0.75;	6, $ 4.20
3 "	Tested "	1, 1.00;	6, 5.70
3 "	Breeder "	1, 5.00;	6, 25.00
5 "	Untested "	1, 1.00;	6, 5.70
5 "	Tested "	1, 1.50;	6, 8.70
5 "	Breeder "	1 10.00;	6, 50.00
3 "	Nuclei 1-fr. with Unt. Queen		1.75
3 "	" 2-fr. " " "		2.25
3 "	" 1-fr. " Test. "		2.00
3 "	" 2-fr. " " "		2.50
3 "	Full Colony " Unt. "		4.75
3 "	" " " Test. "		5.00
5 "	Nuclei 1-fr. " Unt. "		2.00
5 "	" 2-fr. " " "		3.00
5 "	" 1-fr. " Test. "		2.50
5 "	" 2-fr. " " "		3.50
5 "	Full Colony " Unt. "		8.00
5 "	" " " Test. "		9.50

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,
R. F. D. 3 LITTLE ROCK, ARK.

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address,

JOHN W. PHARR,
Berclair, Goliad Co., Tex.

SEND FOR FREE
ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars, 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1⅜ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,
160 Newton Ave., N.,
3A6t **MINNEAPOLIS, MINN.**

Golden Untested Queens

Balance of season, 75c each. Safe arrival.

R. V. COX,
5Atf Rt. 4, GREENVILLE, ALA.

Wanted—Old Combs and Slumgum. Will work it for half and pay 30 cents a pound for your share of wax. A. A. LYONS,
8A12t Rt. 5, Box 88, Ft. Collins, Colo.

QUEENS
From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt. 1, Wapato, Wash.

Please mention Am. Bee Journal when writing.

SAVE
Your Queenless Colonies

Introduce a vigorous Tested Queen. We can supply them

By Return Mail for $1.00 Each.

Queens reared last fall from our well-known strain of Italians, and every Queen guaranteed.

Send for Price-List. 4Atf

J. W. K. SHAW & CO.,
LOREAUVILLE, Iberia Parish, LA.

Please mention Am. Bee Journal when writing.

Marshfield Sections
Best Dovetail Hives

with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

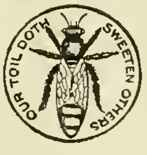
W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Please mention Am. Bee Journal when writing.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."


OUR TOIL DOTH SWEETEN OTHERS

The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.
CHICAGO, ILL.

MARSHFIELD GOODS

BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., **Marshfield, Wis.**

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER
Pat'd 1878, '92, '93 & 1903

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the'cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, " Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.........$1.50—4 Inch stove
Doctor—cheapest made to use .... 1.10—3½ "
Conqueror—right for most apiaries .... 1.00—3 "
Large—lasts longer than any other........... .90—2½ "
Little Wonder—as its name implies .... .65—2 "

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.

Patented, May 20, 1879. **BEST ON EARTH.**

Italian Queens by Return Mail.

Cyprians Carniolans. Caucasians and Banats. Italians—Untested, 75c; Tested, $1.25; Breeders, $3.00. Others, 25c extra. Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles. $3.75 a gross in crates; in boxes. 75c extra. Complete Alexander Hive, 9-F., 2-story, double cover, $2 00; Alex. Veil, by mail, 45c. Gleanings or Bee-Keepers' Review, to new subscribers, 75c a year. Langstroth by mail $1.00. Italian Bees, $10 00 a colony, 8-F. with super. Supplies and Honey. Send for Catalog. Free School—Saturday afternoon classes.

Walter C. Morris, 74 Cortlandt St., NEW YORK, N. Y.

Apiary—Yonkers, N. Y.

Please mention Am. Bee Journal when writing.

ITALIAN Queens Direct from ITALY

—Extensive Apiaries—

E. PENNA, BOLOGNA, ITALY

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are pure and rightly mated. One selected fertile Queen, 90c.; two Queens, $1.60; six Queens, $4.50; one Breeding Queen, $2.00. Cash with orders. Queens postpaid. *The safe arrival is* NOT *guaranteed.*

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MOTT'S
Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, $1.00 each; $9.00 per doz. Natural Golden, from Imported Italian Stock, $1.10 each; $10 per doz. Reduced rates July 1st.

Nuclei and Bees by Pound.

List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for $1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

Cannot Surpass Them!

Famous Golden & Red Clover

Queens. Untested, 50 cts.; Select Untested, 75c; Tested, $1.00.

NUCLEI, $1.00 per Frame.

Evansville Bee & Honey Co.,
5A3t EVANSVILLE, IND.

Please mention Am. Bee Journal when writing.

Southern Bee-keepers!

When your HONEY is ready for market, write us. Will buy outright, or handle on commission. Send samples with full particulars.

—:o:—

We are paying 30c per pound, net, f. o. b. New York for Choice Yellow

◈ **Beeswax** ◈

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.

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TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.
Cor. Nolan & Cherry Sts.,
4Atf San Antonio, Texas.

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FOR SALE

Untested Golden Italian Queens 50 cts. each
6A3 **J. F. Michael, Rt. 1, Winchester, Ind.**

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"If goods are wanted quick, send to Pouder"
(Established 1889)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Watter S. Pouder, Indianapolis, Ind. **859 Massachusetts Ave.**

I bring 30¢ per lb.
Capon 8 lbs.
I bring only 15¢ per lb.
ROOSTER 4½ lbs.

Poultry Profits Doubled

CAPONS bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

PILLING CAPONIZING SETS

Sent postpaid, $2.50 per set with "Easy-to-use" instructions. We also make *Poultry Marker*, 25c. *Gape Worm Extractor*, 25c *French Killing Knife*, 50c. Booklet, "Guide for Caponizing," FREE.

G. P. PILLING & SON CO., 23d & Arch Sts., Philadelphia, Pa.

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The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. **HOOD RIVER, OREGON.**

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.
4Atf PROVIDENCE, R. I.

The Swarthmore Apiaries

are now shipping their well-known

PEDIGREED GOLDEN QUEENS

The Swarthmore Apiaries,
6A4 **Swarthmore, Pennsylvania.**

Root Section Honey-Boxes

Concerning the importance of buying the best, and our ability to furnish sections of a superior quality to bee-keepers everywhere.

Our Section Making Department we believe to be the best equipped in the world. We claim superiority of workmanship in several respects, especially in smoothness of the dovetailing and the ends of the sections. They are polished on both sides in double-surface sanding machines, and are therefore uniform in thickness. Too much importance can not be attached to putting up comb honey in sections of uniform quality, and experienced honey-producers agree that **ROOT SECTIONS** of either A or B grades are a most essential investment.

Price-List of Sections

Root Sections come in several standard styles and sizes—with or without bee-way as follows:

4¼x4¼ BEEWAY SECTIONS.
2 inch, 1 15-16, 1⅞, 1¾, or-7-to-foot wide.

We send 1⅞ style 2 beeway when your order does not specify style or width wanted.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 50	5 00

PLAIN, OR NO-BEEWAY SECTIONS.
4¼x4¼x1½, 1⅝, or 1⅜; 4x5x1⅜ or 1½; or 3⅝x5x1½.

We send 4¼x1½ plain, or what will fit other items in your order, if you do not specify.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 25	4 75

One hundred sections weigh about 7 lbs.

Better Order a supply of **Root's Weed Process Foundation** with your sections. 1910 sales on this very superior product totaled nearly 200,000 lbs. Samples with full information and prices may be had upon request.

Remember—We carry complete stocks at this branch and guarantee quick delivery on sections in lots of 100 to 1,000,000, and on foundation and other supplies in any quantity. You ought to know the complete **ROOT LINE** for every appliance for successful bee-keeping. Get the new catalog—brimful of the most modern supplies priced at rock bottom figures for goods of the quality we have manufactured for more than 40 years.

THE A. I. ROOT CO., 213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr. (JEFFREY BUILDING) Telephone 1484 North.

"How to Keep Bees," —BY— A. Botsford Comstock.

A simple book, written in a clear, every-day language, is much to be preferred, even if it does not treat of quite so many little details, which interest only the professional bee-keeper. Such is "How to Keep Bees," written by a gifted author, who made a start in bee-keeping three different times, thus being afforded the opportunity of personally finding out the difficulties and trials that beset the beginner with bees. It is a book written by an amateur to amateurs, so eminently readable, that any one interested in the subject can sit down and devour it clear through, as though it were a modern novel. The print is large, and typographically as well as rhetorically, it is the peer of any such book now on the market. It is bound in cloth, and contains 228 pages.

There are 20 chapters in the book as follows:

1. Why Keep Bees?
2. How to Begin Bee-Keeping.
3. The Location and Arrangement of the Apiary
4. The Inhabitants of the Hive.
5. The Industries of the Hive.
6. The Swarming of Bees.
7. How to Keep from Keeping Too Many Bees.
8. The Hive and How to Handle It.
9. Details Concerning Honey.
10. Extracted Honey.
11. Points About Beeswax.
12. Feeding Bees.
13. How to Winter Bees.
14. Rearing and Introducing Queens.
15. Robbing in the Apiary.
16. The Enemies and Diseases of Bees.
17. The Anatomy of the Honey-Bee.
18. The Interrelation of Bees and Plants.
19. Bee-Keepers and Bee-Keeping.
20. Bee-Hunting.

There is also a bibliography and index. From a beginner's standpoint it is a complete treatise on bees, and we can not do better than recommend it. In fact, it should find a place in every bee-keeper's library.

Our Offers of this Interesting Book.

We mail this book for $1.10; or we club it with the American Bee Journal one year—both for $1.75; or, we will mail it *free* as a premium for sending us 3 new subscriptions to the American Bee Journal for one year with $3.00 to pay for the subscriptions. Address,

GEORGE W. YORK & CO., 117 No. Jefferson St., CHICAGO, Ill.

Comb Foundation
BEE-KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of
Working Your Wax into Comb Foundation for You.

Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

LEWIS BEEWARE — Shipped Promptly

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.) **Send for Catalog.**
148 West Superior St., CHICAGO, ILL. Enough said!

QUEENS

Bees by the Pound and Full Colonies

Hardy Golden and Three-banded Italians. Hustlers for honey, and are gentle. No disease.
Untested queens, $1.00 each, $5.00 for six; tested, $1.50 each, $8.00 for six; select tested, $2.00. One-frame nucleus, $2.00; two-frame, $3.00; three-frame, $4.25; ½ lb. bees, $1.75 (add price of queen wanted); full colonies, $7.00.

VIRGIL SIRES,
516 North 8th St.,
NORTH YAKIMA, WASH.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for— 1Atf

"Falconer"

— Write for Catalog

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Mexico as a Bee-Country

B. A. Hadsell, of Buckeye, Arizona—one of the largest bee-keepers in the world—has made six trips to Mexico, investigating that country as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated 32-page booklet, describing the tropics of Mexico as a Bee-Man's Paradise, which is also superior as a farming, stock-raising and fruit country. Where mercury ranges between 55 and 98 Frost and sun-stroke is unknown. Also a great health resort. He will mail this book by addressing, 7A12t

B. A. Hadsell, Lititz, Pa.

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Increase Your Honey Crop

By introducing some of OUR

Famous Honey-Queens.

Some of our Colonies produced 250 lbs. of Surplus Honey the past season. No better bees in the **World.**

Will sell Queens the following prices, May to Nov., Untested Queen, $1.00; 6 for $5.50. Tested, $1 50; 6, $8.50. BREEDERS, $5.00 to $10.00 each. 25 years' experience in Queen-Rearing.

Fred Leininger & Son,
2Atf DELPHOS, OHIO.

Superior Golden Queens

Standard Breed

That have a record of 256 pounds of honey per colony. Gentle to handle, and Beautiful in Color; as hardy as any Strain or Race of Bees, and almost Non-Swarming. We handle them without gloves or veil, and but little smoke.

Untested, $1.25; 6 for $6.00; 12 for $10.00.

No disease.

If you want to know more about them, write us. All tested Queens sold until in June, then we will have them.

T. S. HALL,
Talking Rock, Pickens Co., Ga.

REQUEENING
with Standard-Bred Italian Queens.

The demand for our Fine Standard-Bred Untested Italian Queen is increasing rapidly, because **they give satisfaction.** Here is what two of many pleased customers have to say;

George W. York & Co.—
I must tell you how well pleased I am with the Queen you sent me last year. I thought I had some pretty good Queens myself, but the one you sent me is the best Queen I have now. You know we have had, and are still having, a severe drouth. White clover lasted only two weeks, and while my average of honey per colony is about 40 pounds of surplus, the bees from the Queen you sent me have gathered, so far, more than 100 pounds of fine honey. They are hustlers, indeed, and the bees are very gentle. **Twenty dollars would not buy that Queen.** After this I know where I will get my Queens.
G. A. Barbisch.
Houston Co., Minn., July 14, 1910.

George W. York & Co.—
I have had a good many Queens from you in the past, and have never gotten a poor one. (Rev.) Milton Mahin.
New Castle, Ind., July 18, 1910.

We could publish many more testimonials like the above, but what would be the use? As "the proof of the pudding is in the eating" thereof, so the proof of the value of our good Queens is in getting and trying them yourself. Send in your order at once and see the nice, vigorous Queens you will get. Some of the largest honey-producers in this country use our Queens. They know what they want, and where to get it. That is the reason they order our Queens.

If you have not had any of our Standard-Bred Queens, why not get one of them **now** with a renewal of your subscription to the American Bee Journal? No matter if your subscription is now paid in advance, we will credit it still another year, and also send you the Queen. **Prices after July 15th:**

We mail one Queen with the Bee Journal for a year—both for only $1.50. Queen alone is 75 cents; 3 for $2.10; 6 for $4.00; 12 for $7.50. These prices are exceedingly low in view of the excellence of the Queens. It pays to get **good stock.** Mr. Barbisch as well as thousands of others have proven this.

Now is the time to requeen your colonies. Why not order some of our good Queens?

We are now sending Queens **almost by return mail,** and expect to continue to do this until the end of the season. Address all orders to—

GEORGE W. YORK & CO.,
117 N. Jefferson St., Chicago, Ills.

J. E. Hand
The Veteran Queen-Specialist

WILL begin the season of 1911 with greatly improved facilities for rearing the choicest queens. . . . Our queens are not only large, vigorous, handsome, and prolific, but by reason of a judicious system of line breeding they have the power to transmit inherent tendencies of a highly desirable nature, such as hardiness, gentleness, and industry, as well as uniformity of marking, which makes them especially valuable as breeders. Every queen is warranted to produce uniformly marked bees of superior honey-gathering qualities. Don't take chances. Get the real thing. Warranted, $1.00; six, $5.00; dozen, $9.00. Tested, $1.25. Breeders, $5.00. Half pound of bees, no queen, $1.00. Three (L.) frame nucleus, no queen, $3.25. No selection, therefore no culls, and a square deal for all. Valuable information free for your address.

J. E. HAND,
Birmingham, Ohio

This Man

Will consider it a privilege if you will let him make you an estimate on a bill of goods. Send him a list of what you want, and he will quote prices with discounts.

Goods can be shipped from Fremont, Mich. Chicago, Ill., or Medina, Ohio—whichever place will cost the less freight; or you can have he estimate to be delivered at your station, freight prepaid.

He has the largest and most complete stock in his 25 years as a supply-dealer, and can ship promptly

All Root's Goods at their Prices, with Season's Discount.

BEES, QUEEN'S, and Three-Frame Nuclei a specialty; Hilton's Superior Strain. (See testimonials.)
BEESWAX wanted for Cash or Exchange

Send for 50-page Catalog to— 6A3

George E. Hilton, Fremont, Mich.

Please mention Am. Bee Journal when writing.

QUEENS
Scoggins - Noted - Strain

Accidentally discovered the greatest honey-gatherers known. Cross of Cyprians and Italians. Thoroughly tested 8 years for honey. If it's honey you want, buy these Queens. Price, $1 to $5, for introduction. Only few extra-fine Breeders for sale. 5A3t

J. B. SCOGGINS, FOUKE, ARK

HONEY AND BEESWAX

CHICAGO, July 1.—There has been an absence of comb honey during the past month with the exception of some undesirable lots on the market, hence no sales to base quotations upon. Extracted, although the offerings have been free, few sales are made, buyers feeling prices are at too high figures. This month will decide the output for the Middle and Eastern States for the year of 1911, thus enabling dealers and producers to arrive at fair estimate of values. Beeswax is in good demand at 30@32c.
R. A. BURNETT & CO.

INDIANAPOLIS, July 1.—The demand for best grades of white clover comb and extracted honey is excellent. Fancy white comb is being offered at 17c by the case. No. 1 white comb at 15c. Extracted, in 5 gallon cans, at 11c per pound. Some slight reductions on quantity lots. It is presumed that producers are being paid about 2 cents less than above quotations. Producers of beeswax are being paid 29c cash, or 31c in trade.
WALTER S. POUDER.

NEW YORK, July 3.—We have nothing to report on comb honey. Fancy white and No. 1 are pretty well cleaned up. Some little demand at from 14@15c. Off grades, mixed and buckwheat, are not wanted, and some of these will have to be carried over. Extracted is in good demand. New Southern stock is arriving quite freely, and selling at from 65@85c per gallon, according to quality. There is no new crop from California on the market as yet, and we do not expect to have any for another month to come. Beeswax, quiet at 30c per lb.
HILDRETH & SEGELKEN.

CINCINNATI, July 1.—The market is bare of comb honey. There is as yet no new to offer, and it will be hard to tell just what it will bring. We are selling water white extracted honey, put up in 60-lb cans, 10c. There is no new white clover extracted honey as yet to hand. Amber honey in barrels is selling at 7c. Beeswax is in fair demand at $33 per 100 lbs. These are our selling prices, not what we are paying.
C. H. W. WEBER & CO.

CINCINNATI, July 3.—Extracted honey is moving quite lively. For amber honey we are getting from 6@7½c, according to the quality, for fancy table honey from 8@10c in boxes of two 60-lb. cans. We have already received a number of shipments of comb honey, which found ready sale at 16@17½c a pound in 24 section cases. The above are our selling prices, and we must buy at even better prices than these. For choice, bright yellow wax, free from dirt, we are paying from 29@30c a pound cash.
THE FRED W. MUTH CO.

BOSTON, July 3.—Fancy and No. 1 white comb honey, 15@16c. White extracted, 12c. Beeswax, 30c. BLAKE-LEE CO.

KANSAS CITY, MO., July 5.—A few shipments of new comb honey have arrived on our market, there is no new extracted here as yet. We quote: No. 1 white comb, 24 section cases, $3.50; No. 2, $3.25. White extracted, old, per lb., 8½c. Beeswax, 25@30c.
C. C. CLEMONS PRODUCE CO.

Please mention Bee Journal to advertisers

Extra-Good Queens!

So sure am I that my Leather-Colored Italian Queens are Extra Good, that I will guarantee them to please you, or return your money.

"S. F. TREGO.—I am very much pleased with your Queens, and you may expect more orders next season. Your Queens are the best I ever bought from any breeder in the U. S.—A. R. BRUNSKILL, Canada."

One, 90c; six, $4.75; doz $9.00.
After July 1st, 70c; six, $3.75; doz $6.50; 20 or more, 50c each.
No disease. Prompt shipment. 3A7t

S. F. Trego, Swedona, Ill.
Please mention Am. Bee Journal when writing.

"Langstroth on the Honey-Bee"

This is one of the standard books on bees. It tells in a simple, concise manner just how to keep bees. It was originally written by Rev. L. L. Langstroth, who invented the movable-frame hive in 1851. The book has been brought right down to date by Dadant & Sons, than who there are no better or more practical bee keepers in this or any other country. It contains nearly 600 pages, is fully illustrated, and is bound in cloth. Every topic is clearly and thoroughly explained, so that by following its instructions no one should fail to be successful with bees. Price, postpaid, $1.20; or with the American Bee Journal one year—both for $2.00. Send all orders to the American Bee Journal.

All Roads Lead to Cincinnati

"Deal with Weber & Co. at the Service Center"

The supplies you have on hand are worth many times as much to you as those you must order and wait for when the honey-flow is on. We know how busy you are in making final preparations for the big year we all expect; but try not to overlook the importance of getting your orders for sections, foundation, extra hives, supers, etc., in RIGHT NOW. You will be pleased with our QUICK DELIVERIES and with the quality, and we will give your order our best possible attention, no matter when it comes; but we urge you to get in a good stock of sections and foundation NOW. Let us tell you about these goods.

SECTIONS

We handle the best grade of sections made. If you want a hundred or ten thousand, or a hundred thousand, we can fill your order promptly with goods we will guarantee to please. You may judge of the popularity of the sections we sell when we tell you that the manufacturers make upward of twenty-five million of them every season.

FOUNDATION

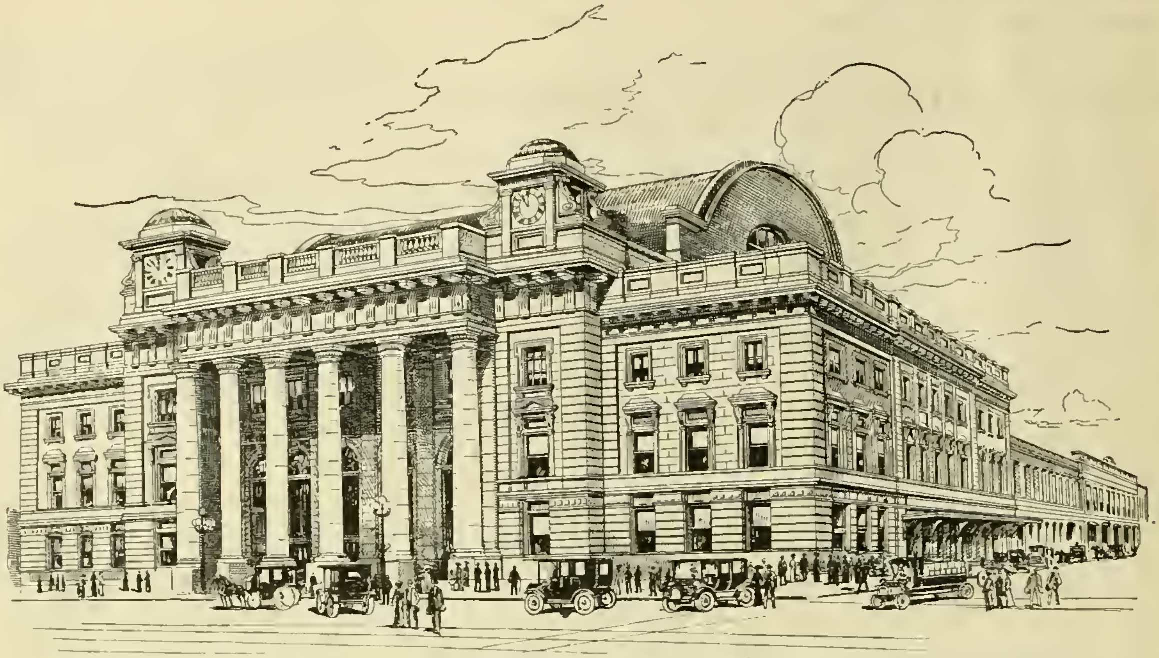
There is nothing more important to the up-to-date bee-keeper than to have foundation just when he needs it, and of the best quality. We sell nothing but Root's Weed-process Foundation, the recognized standard of the world. The bees appreciate the good points of this foundation, and every bee-keeper knows that it is the best. All grades and sizes constantly on hand. A pound or a ton, just as you like.

There are other items of interest too numerous to mention. We can furnish anything you need in the bee keepers' supply line, and get it to you so promptly that the goods will reach you just when you need them most. No order is too small for our attention, and none so large that we can not handle it to *your* satisfaction. Send US your hurry orders and allow us to demonstrate what we can do for you. Catalog on request.

Poultry Supplies A special catalog of these Goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

Where the Special Car of Bee-Keepers will leave Aug. 29 for the Minneapolis Meeting.



New Passenger Terminal of the Chicago & North-Western Railway, Chicago, Ill.

FAMOUS "Falcon" Goods

Conveniently Located in Chicago.

It is fitting that "falcon" goods, the world's best bee-keepers' supplies, should be sold in locations most conveniently situated for its patrons. Particularly is this true in Chicago. The North-Western Station pictured above is just one-half block from our warehouse. With the moving of this terminal from its former location north of the river, the "falcon" House is **the only house conveniently located to any of the Depots.** We are located not only in immediate conjunction with the North-Western, but also with the Union Depot, and **all** other Railway Stations are within short walking distances. The Elevated cars span the North-Western Station, and the Madison Street surface cars tunnel it, connecting us with every portion of the **City.**

Truly our location is ideal for bee-keepers in the Chicago territory.

Our location in the heart of the railroad district gives us pre-eminent facilities for prompt shipment. Send us your **Rush** orders for Sections and Foundation.

Shipping-Cases :-- Have you our descriptive circular giving prices on Shipping-Cases. We will be pleased to mail it to you, together with our complete Catalog of everything needed by the bee-keeper.

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AMERICAN BEE JOURNAL

AUGUST 1911

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OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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AMERICAN
BEE JOURNAL
L.L. LANGSTROTH
CHAS. DADANT

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

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DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., AUGUST, 1911

Vol. LI---No. 8

EDITORIAL COMMENTS

Honey Crop and Prices for 1911

Judging from all we can learn through our correspondence, as well as otherwise, it seems that the honey crop for 1911, especially in the western part of the United States, is very limited, although in certain localities there is a fair crop. The eastern part of the United States, and particularly the New England States, seem to have had a good crop of honey. It may be that with sufficient rains there will be harvested some fall surplus honey, and the bees may gather enough to insure a sufficient supply for their winter stores, so as not to require feeding.

Taking it all together, as we view it, there will be a shortage in the honey supply of the whole country, so that prices should be maintained about the same as last year, if not a little higher in some localities. Now that the price of honey has been raised over what it has been, to something nearly what it should be, during the past 2 or 3 years, a strong effort should be made by producers to keep it at least up to the present point, and certainly not permit it to be lowered again unless a bumper honey crop should be harvested, and, even then, there would not be enough honey produced to supply the population of the United States with all the honey they should consume.

Comparing the present price of honey with the price of other table foods, surely honey is sufficiently low in price, and in many localities it is still too low. We are not in favor of bee-keepers being Shylocks, and demanding the uttermost farthing that can be possibly squeezed out of the public for their honey, but we do think that they ought to get something like the right value of their honey when they dispose of it.

Again we wish to suggest that, so far as possible, all the home markets be supplied *first*, before shipping any honey to the large cities. The tendency is to rush a lot of honey to one or two points, and thus break down the market prices through an over-supply for a temporary period; and then the lowered prices are likely to prevail for a long time.

It is commonly agreed during these later years that the best price for honey is usually realized before the first of the new year, as at that time and thereafter the demand seems to drop off and prices naturally lower.

We have believed for years that honey is worth all that can be gotten for it, for even then, in most cases, the price secured will be low enough.

Canadian Reciprocity and Honey

The Canadian Bee Journal says this on the subject of tariff reciprocity:

> "There has been a noticeable absence of any reference to reciprocity in the columns of our American contemporaries. We wonder why this is."

Oh, but there has not been entire absence of reference in at least two-thirds of your American contemporanies, Brother "Canadian." If you will turn back to the March number of this Journal, you will find that the first editorial is headed "Reciprocity with Canada." Possibly you may recall it the more readily if reminded that a typographical error in one place makes the Canadian tariff on United States honey 5 cents a pound instead of 3 cents. At any rate, it was there shown that reciprocity—putting honey on the free list—would be a gain to the United States bee-keeper, as by the present tariffs "the Canadian has 1⅓ cents the advantage over his Yankee neighbor."

It is not impossible that absence of further reference may arise from this fact, that the gain was to be on our side, together with the feeling (if Editor Hurley will pardon a paraphrase of his own words) that we must "never lose sight of the great Christian principle, that that man is our brother who lives in Canada as well as he who lives in the United States."

Another reason may be in the fact that there is not enough difference of opinion among editors on this side to get up a controversy. It is doubtful that two pages of the July Canadian Bee Journal would be occupied with reciprocity were it not for the apparently irreconcilable difference of opinion between two of its editors.

But perhaps the chief reason is that it will not make the difference of a button to the powers that be, what is said in the bee-papers, and they can leave it to the men "higher up" and go on discussing whether the swarming habit can be bred out, and whether it is necessary to disinfect foul-broody hives.

Increase Late in the Season

It is well to be through with all artificial increase early in the season, so that colonies may be well settled for winter. Sometimes, however, it is desirable to make increase when the season has well advanced, and the bee-keeper, especially the beginner, should keep in mind that what would be appropriate management in May or June may be quite out of place in August.

Early in June, a nucleus of 2 or 3 frames of brood with adhering bees and a laying queen may be left to its own devices with the confident expectation that in a moderately good year it will build up into a good colony for winter. But if the start be made 2 or 3 months later, failure would be likely to result.

If an artificial colony be started some time in August, then there must be one or two things: Either the bee-keeper must give assistance from time to time, or the newly created colony must be at the start so strong that there shall be no question about its being fully prepared for the winter. On the whole, it is generally more satisfactory to make the new colony sufficiently strong at the start, and fortunately this is much easier to do late than early. Two frames of brood taken from a colony in April would be likely, in the North, to cut in two the amount of honey stored by that colony in supers, whereas if taken in August it might make no difference whatever, especially if there should be no fall flow.

In most cases it will be advisable to allow a number of colonies to contribute each its quota. Take from each of 5 or 6 colonies a frame of brood with its adhering bees, and if a flow is on they will quickly recover from the depletion, and a week later may be called upon to start another new colony. But those 5 or 6 frames of brood put into a new hive with their adhering bees and a laying queen will be at once a colony of fair strength, and if the hive be filled out with frames of honey no anxiety need be felt for its future.

The question may arise whether it be not necessary to fasten these bees in the hive for a few days, in order to prevent them from returning to their old homes. If you start a 2-frame nucleus in the same way, merely putting the 2 frames of bees with adhering bees in the hive without fastening them in, and pay no attention to them for 3 or 4 days, upon opening the hive at the end of that time you will find nearly all the bees gone and the brood dead. But the case is quite different if as many as 5 or 6 frames covered with bees be used. Whatever may be the reason, enough bees will stay to protect the brood fully, and if the brood be mostly sealed you may even find an increase of strength at the end of 3 or 4 days.

Another plan, that may be labeled "Made in Germany," may be used at the time of harvesting the crop, requiring the least possible amount of trouble. Suppose you have a nucleus in which a young queen has begun to lay. From the nucleus take one or more frames of brood with adhering bees and the queen, and put them in an empty hive, filling up the hive with empty combs or frames filled with foundation. Put a bee-escape on the hive, and on this put 3 or 4 of the supers that you wish to empty of bees. These bees will after a time seem in some way to make the discovery that they are separated from the queen. A few of them will find their way down through the escape, and being young innocents will be glad to find a queen and a brood-nest, even if the queen be not their own, and will show no hostility toward her. Others will follow on their downward way, and by the next morning the beeless supers may be removed, and there you are with your new colony. It has really cost you no extra trouble except to put the frames from the nucleus in the hive, for putting the supers over the escapes and taking them off later is hardly more trouble than to have put the escapes on each of the hives.

Breeding from the Best

If you are intending to breed from the best it is important that you have some definite record of the yield of different colonies so as to be able to decide with some degree of certainty which is best. If working for section honey it is an easy thing. Each time you take any number of sections from a colony set down that number to the credit of the colony. When taking off at the last, estimate about how many full sections are equivalent to the partially filled sections taken off, and credit accordingly.

When working for extracted honey it is not so easy. But you can count the number of filled combs taken from a colony at each extracting, and if you take any combs that are only partly filled, make an estimate as to the number of full combs they would make.

Of course, there are other things to be taken into consideration. One colony may have had brood taken from it early in the season, while another had brood taken from it. Allowance must be made for this. Other things being equal, a colony that makes no preparation for swarming has the preference, and so on. But the main thing is to keep tally of the crop harvested, and you can not begin any too soon at this.

Orange Farmers and Co-operation

There appears in the Chicago Record-Herald a very interesting article by the noted newspaper correspondent, William E. Curtis, who says:

> This co-operation has been the salvation of the orange business. Until it was arranged in 1905, the industry was uncertain and often conducted at a loss. There have been years when orange growers have been compelled to go down into their pockets to meet deficits and sell their shipments for less than the freight charges. In 1802 half the oranges in Riverside county were sold for 10 cents a box, although it cost an average of 50 cents a box to raise them. Other years there were large profits, but nothing was certain until the organization of the California Fruit Growers' Exchange, which now handles from 60 to 70 percent of all the citrus fruits grown in the State, and does a business varying from $20,000,000 to $25,000,000 a year.
>
> At first growers shipped their oranges to persons they knew, to be sold at any price. Then the middlemen came into the business and demanded the larger share of the profit. They sent agents out to buy the crops on the trees, picking, packing, and shipping themselves. When the growers revolted, the fruit was handled on a commission basis in an irregular manner. The fruit was dumped in Chicago, New York, and other markets to be sold for what it would bring. In that way a market capable of absorbing one carload a week was likely to receive several carloads the same day. Again, it would have an orange famine.

After various efforts with local associations, in 1905 the California Fruit Growers' Exchange was organized, which has since managed the interests of 60 percent or more of the fruit-growers of California through a board of 14 directors, one of whom is elected by each of the district associations. It is not a monopoly, as there are several other co-operative organizations.

> Under the rules of the California Fruit-Growers' Exchange every member has the right to pick and deliver his fruit when he chooses. He receives daily information from headquarters as to the condition of the market, and if he wants additional details can call up headquarters on the telephone. The exchange has salaried agents at every important distributing point, each having his own territory, and each making a report by telegraph every day during the season. The telegraph bills of the Exchange amount to $6000 or $7000 a month. The advertising bills have averaged $50,000 a year since the association was formed. The appropriation for 1911 is $100,000. The headquarters of the Exchange are at Los Angeles, from which a daily bulletin is sent out by mail at midnight, and its contents are usually telegraphed to the principal newspapers in the orange district. Thus every member of the Exchange can keep himself informed as to the condition of the market and act accordingly.
>
> When he picks a load of fruit he hauls it to the packing-house of his local association and there receives credit for its value on the book of the agent. He has nothing more to do with it, and no further responsibility. His oranges will go to market with those of other growers, and will be sold at the same time for the same price. It is just like delivering milk to a creamery.

That there is a remarkable stability in the market since the organization of these co-operative organizations may easily be seen by any one who watches the quotations of oranges, etc., in the daily papers. Sometimes the price remains stationary for weeks at a time.

If fruit-men can get together in this way, is it, or is it not, possible for bee-men thus to unite? One answer to that question is that the producers of honey are so widely scattered that unity of action is not possible. That may be true. And again it may not be true. With sufficient intelligence and enterprise it might be possible for California bee-keepers to co-operate with New York bee-keepers to the advantage of both.

It is not merely that the orange-men are located in one spot that makes co-operation successful. Mr. Curtis says:

> Curiously enough, other fruit growers in the State have never been able to co-operate like the orange growers. They have made several attempts to organize, but their associations have never given satisfaction, and usually have dissolved after a brief existence. The truck gardeners, the apricot dryers, the prune men, the raisin men, the fruit canners, walnut growers, and other horticultural and agricultural interests have never been able to get together or work in harmony like the orange growers.

Is this ability to work in harmony, that orange-growers possess, and that others do not seem to possess, lacking among bee-keepers? Certainly, there is a strong bond of union among all who have to do with the busy bee. If that is the thing that makes the difference, then bee-men should be able to co-operate as well as orange-men. At any rate, this example of the orange-men is well worth thinking over.

Losses in Shipping Bees

When there is loss in the shipment of bees, the question may be raised whether the shipper or the purchaser should stand the loss. On this subject Editor Hutchinson was very emphatic in his belief, and said in the Bee-Keepers' Review:

> It is true that express companies will not assume any risk in carrying bees, but that need not necessarily decide that the *owner*, the *purchaser*, must bear any and all losses. On the contrary, I say that the *shipper* of bees ought in all cases to bear the loss in shipping. Under no circumstances would I have bees shipped to me unless the shipper would guarantee safe arrival in perfect condition. The purchaser has nothing whatever to do with preparing the bees for shipment; the seller prepares the bees for shipment, hence it is "up to him" so to prepare the bees that they will bear shipment with safety. It is no excuse to say this can't always be done, because it *can*. To illustrate:
>
> A colony might be smothered by setting something on top of it, thus shutting off ventilation. This can be prevented by nailing two strips of wood across the top, thus making it impossible to shut off ventilation.
>
> Broken combs can be entirely avoided by using old brood-combs built on wired foundation.
>
> In the successful shipping of bees there is no more important factor than the *age* of the bees. *Old* bees are worse than worthless, unless the distance is very short.
>
> Have strong, old combs thoroughly fastened; give plenty of ventilation that can't be obstructed; give room to cluster *off the combs;* use only young bees; prepare colo-

nies in this way, and nothing short of a smash-up will prevent their safe arrival.

Mr. Hutchinson's reasoning as to the responsibility of the shipper looks reasonable. Of course, there might be a case in which there would be a special agreement that bees should be shipped at purchaser's risk. For some particular reason the purchaser might want a colony of bees so early in the season that none but old bees would be in the hive; and in that case the shipper would hardly be willing to ship unless the purchaser would take all risk.

Notice that Mr. Hutchinson says that old bees are worse than worthless for shipping. To some this may appear a rather strong statement. But it should be considered that the trouble does not end with the loss of the old bees which worry themselves to death. The presence of their dead bodies is a worriment to the remaining bees, which become exhausted with their ceaseless efforts to remove the carcasses. Besides, the worrying activity of the old bees may be conveyed to the younger ones, which of their own accord would remain quiet.

But how can one sort out the old bees from a colony? Easily. Move the hive to a new stand, and in a day or two all the field-bees will have returned to the old locality, leaving none but young bees in the hive.

MISCELLANEOUS NEWS ITEMS

Death of Geo. E. Hilton.—It will come as a great shock to the many friends of Geo. E. Hilton, of Fremont, Mich., to learn that he passed away the afternoon of July 12, 1911, as a result of cancer of the stomach, from which he had been suffering for a long time. We will publish a sketch of Mr. Hilton's active life next month. In the meantime, the heartfelt sympathy of all our readers will go out to Mrs. Hilton, and her sons and daughters, in their bereavement.

◆

Our First-Page Pictures.—The following will tell something about the pictures on the first page of this number of the American Bee Journal:

No. 1.—Apiary of W. F. Garrihan

I began to take the American Bee Journal in 1869. I think Mr. Samuel Wagner was the editor at that time. I was 14 years old when I began bee-keeping. The first colony I had was in a straw hive, and the next was in the Underhill hive that hung on a wire post. I had to take off the hive to look at the bees. Then I got the Langstroth hive, and to-day I have the Danzenbaker hive.

Conneautville, Pa. W. F. GARRIHAN.

No. 2. Apiary of Ezra Smith

I am sending a photograph of my bee-yard taken in winter. It is right in the middle of the town, and I don't get as good results as I used to, but the honey is of a better quality.

New Zealand, March 28. EZRA SMITH.

No. 3.—Apiary of Wm. H. Brubaker

This illustration shows the very neat apiary of Wm. H. Brubaker, of Freeport, Ill. We requested Mr. Brubaker to send us a little descriptive matter to accompany the picture, but he probably was too busy to send it, at any rate we can not find that it arrived at this office.

The picture shows Mr. Brubaker himself holding a brood frame.

There are many very neat apiaries in this part of the country, and surely Mr Brubaker has one of them in the corner of his yard.

No. 5.—Apiary of Ellis E. Pressler

The picture I send you is one of my outyards, 24 miles from here, in the wilds of the lumber region, among the wild red raspberries and virgin forest of basswood. The scene is where an old iron furnace stood nearly a century ago This is one of Alexander's fairly good locations. This apiary had 137 colonies last season when the picture was taken, and I will have over 200 this season in this yard. The season has been exceptionally good since about May 4th—a continual flow. First were cherry, apple, wild cherry, thorn-apple, and now raspberry is just beginning to bloom. A super is filled now on nearly every hive, ready to extract. I am busy day and night.

ELLIS E. PRESSLER.
Williamsport, Pa., May 20.

Nos. 4 and 6.—Apiary of A. W. Yates, and Connecticut Field-Day in 1910

One of the photograps I am sending is a small portion of my queen rearing yard, showing the small mating hives of the Root style. I prefer to use them for one colony with 4 frames and a division-board feeder at one side. The feeder can be filled with moist sugar, and in this way I have small danger from robbing. My queens are all reared over an excluder in queen-right colonies, with a strong force of bees and from grafted queen-cells. At one time last summer I had 86 cells accepted from a lot of 90 grafts, which I consider as good as the average.

The other picture is of the field-day gathering (June 18, 1910) at my place, of the Connecticut Bee-Keepers' Association. It was taken late in the afternoon, after a shower, and a goodly number had gone home; but they had an enjoyable day's outing among the bees. Lunch was served on the basket picnic plan, in a small grove near by, after which we listened to an address on "Drones," by Arthur C. Miller.

CARBOLIC ACID AND FOUL BROOD TREATMENT.

I am the foul-brood inspector in this section of the State, and had a sample on hand to exhibit. We also gave a demonstration of its treatment. One kink I have never seen spoken of in our bee-papers in the treatment of this disease, is the use of carbolic acid to prevent robbing. If all the combs are straight, and in frames, I should consider it gross carelessness to do my work in such a manner as to lead to robbing; but with hives of all sorts and descriptions, from soap-boxes to candy-pails (such as an inspector runs across), it seems impossible to transfer without scattering more or less honey occasionally, therefore I make a strong solution of carbolic acid and water in a sprinkling can, and spray it all around where I am at work, with the result that I am never troubled with bees getting excited from the smell of honey.

I could hardly do without carbolic-acid water around my apiary; an entrance stuffed so that only one bee can pass with a cloth *soaked* in a strong solution is safe from intruders. At one time a can of honey was accidentally upset in my honey-house, and, running through the floor with no cellar beneath, the bees were soon there in force. A liberal use of carbolic-acid water soon drove them away.

I have taken the American Bee Journal a good many years, and hope to do so a great many more. Sometimes one number I consider worth the year's subscription.

Hartford, Conn. A. W. YATES.

Can the Bee be Improved by Breeding?—A. L. DuPray sent a letter to the Bee-Keepers' Review in which he raises the question whether acquired characteristics in bees can be transmitted through breeding. He says:

> "After all I have read and studied, and in the light of what experience I have had, I am almost forced to the conclusion that the honey-bee is just the same as when Samson took surplus from the carcass of the lion. Yet, as I have said before, I do not *know*, but I would *like* to know."

Dr. E. F. Phillips was asked to reply, and closes by saying:

> "When we see what has been done in breeding 5-banded Italians, we are forced to the conclusion that it is possible to change the bee by breeding. If we could but devise a method for control of mating, progress would be more rapid. The 5-banded bee did not exist in the days of Samson's exploits with the Leo bar-frame hive, and it is probable that before as many centuries pass again some further changes in the bee may be seen."

◆

Substitute for Pollen.—Von Burckhardt says in Prak. Wegweiser that, as a substitute for pollen, flour from the legumes, as peas and beans, is greatly superior to that from the grains. The latter contains only 10 to 12 percent of nitrogenous matter, as against 20 to 26 percent in the legumes, which more nearly approach natural pollen, with 30 to 40 percent.

◆

Disinfection and the McEvoy Treatment.—Mr. I. Hopkins, of New Zealand, in his Bulletin No. 5, on foul brood, says: "I have full confidence in recommending to our New Zealand bee-keepers the following modification of the McEvoy treatment;" and as the chief part of the modification, he says: "I certainly, in all cases, strongly recommend disinfecting hives and other implements that have been in contact with diseased colonies." It was this treatment that Mr. D. M. Macdonald advocated, and it is regretted that it was not so understood. While Mr. McEvoy is emphatic that no disinfection is needed, Mr. Hopkins is just as emphatic that it is needed.

◆

Minneapolis Convention Special Car.—We announced last month that we had arranged with the Chicago & North-Western railroad for a special car for the use of the bee-keepers that might be able to travel together from Chicago to Minneapolis to the National convention Aug. 30th and 31st. The car will leave the new North-Western Terminal in Chicago at 6:45 p.m., Aug. 29th, and reach Minneapolis at 7:55 a.m. the next day.

According to the program on another page, the first important session of the National convention will begin at 1:30 p.m., in the G. A. R. Hall of the Court House. By arriving in Minneapolis about 8 a.m. it will give a splendid opportunity for bee-keepers to become acquainted during the forenoon, so as to be ready for a lively meeting in the afternoon.

The round-trip fare from Chicago will be $16.00, with the return limit until Oct. 31st, if desired. The sleeping berth rate in the Pullman car is $2.00 for a lower berth, or $1.60 for an upper.

There certainly ought to be a lot of

bee-keepers from the East and South that will meet here in Chicago to go on together in this special car. It will give all a delightful evening in which to become acquainted, and be really the beginning of the 1911 National convention all the way from Chicago to Minneapolis.

We will be glad to reserve berths for any who notify us that they will go in the special car.

Be sure to read the program as announced by Secretary Tyrrell, on another page of this number of the American Bee Journal. It promises to be the liveliest and best convention the National has held in many a year. Better go, if you can possibly do so.

◆

Difference in Honey Seasons.—Very notable is the difference between one season and another in the same locality, and also the difference in the same year between one locality and another. Allen Latham writes from Connecticut:

> This season is as far different from last as could be had. Last April was fine for bees, but May brought starvation, and it was not until the middle of June that bees began to produce honey to their full needs. This year April was the worst I ever experienced. But since early in May there has been a continuous flow of nectar. Brood-chambers are full, and honey is already in supers. But the bees are fewer than last year, having had such a check in April. Swarms last year April 27; this year late in May.
>
> ALLEN LATHAM.

In northern Illinois, last year, the honey-flow was good up to about July 10, when it was cut square off by the drouth. This year, April, instead of being the worst ever, was favorable, and there was an abundant flow from fruit-bloom and dandelion, colonies building up in fine shape for the clover that promised big things. The dearth and drouth came, and while there has been a continuous flow in Connecticut, the bees have not been getting their living here. But instead of there being fewer bees than last year, hives were never more ecowded in June than this year.

◆

Canadian Honey Exchange.—Canadians may well be satisfied with the work of their Honey Exchange Committee. Although there may not be "millions in it," there are certainly thousands in it, according to M. B. Trevorrow, who says in the Canadian Bee Journal:

> "We owe an appreciable rise in honey prices to these reports and the Committee's mode of handling them in judging honey-values. It is a remarkable fact that before this Committee was appointed the best white extracted honey was selling as low as 5½ cents per pound, and since its inauguration No. 1 white extracted honey seldom goes below 10 cents, or 10½ cents per pound, wholesale."

◆

When to Protect. in Spring.—Editor Hutchinson seems to have done some thinking on this subject, and said in the Bee-Keepers' Review:

> When bees are first set out in the spring they need no protection. They have little or no brood, and can protect themselves by clustering. If the weather continues warm for 2 or 3 weeks, the combs fill up with brood; then, if there comes cold weather, the bees will, of course, cluster, when all brood outside of the cluster will perish. If the weather turns cold soon after the bees are set out, there is no need of giving the bees any extra protection; but if it continues warm *early in the season*, then it is a safe thing to give extra protection against the "squaw winter" that may come.

The Ohio Foul Brood Law, with which every Ohio bee-keeper should be familiar, reads as follows:

AN ACT.

To establish a Division of Apiary Inspection in the Ohio Department of Agriculture, and to repeal certain sections herein named.

SECTION 1. The Ohio State Board of Agriculture is hereby authorized to establish a Division of Apiary Inspection in the Ohio Department of Agriculture, and to appoint a competent entomologist as the chief inspector of said division, and the necessary assistants, who shall, under the direction of the Board, have charge of the inspection of apiaries as hereinafter provided; he may investigate, or cause to be investigated, outbreaks of bee-diseases, and cause suitable measures to be taken for their eradication or control.

SEC. 2. The inspector or his assistants shall, when notified in writing by the owner of an apiary, or by three disinterested taxpayers, examine all reported apiaries, and all others in the same locality not reported, and ascertain whether or not the diseases known as American foul brood or European foul brood, or any other disease which is infectious or contagious in its nature, and injurious to honey-bees in their egg, larval, pupal, or adult stages, exists in such apiaries; and if satisfied of the existence of any such diseases, he shall give the owners or care-takers of the diseased apiaries full instructions how to treat such cases as, in the inspector's judgment, seems best.

SEC. 3. The inspector, or his assistant, shall visit all diseased apiaries a second time, after ten days, and, if need be, burn all colonies of bees that he may find not cured of such disease, and all honey and appliances which would spread disease, without recompense to the owner, lessee, or agent thereof.

SEC. 4. If the owner of an apiary, honey, or appliances, wherein disease exists, shall sell, barter, or give away, or move without the consent of the inspector, any diseased bees (be they queens or workers), colonies, honey, or appliances, or expose other bees to the danger of such disease, said owner shall, on conviction thereof, be fined not less than fifty dollars, nor more than one hundred dollars, or imprisoned not less than one month, nor more than two months, or both.

SEC. 5. For the enforcement of the provisions of this Act, the State Inspector of Apiaries, or his duly authorized assistants, shall have access, ingress, and egress to all apiaries or places where bees are kept, and any person or persons who shall resist, impede, or hinder in any way the inspector of apiaries in the discharge of his duties under the provisions of this Act shall, on conviction thereof, be fined not less than fifty dollars, nor more than one hundred dollars, or imprisoned not less than one month, nor more than two months, or both.

SEC. 6. After inspecting infected hives or fixtures, or handling diseased bees, the inspector or his aisistants shall, before leaving the premises, or proceeding to any other apiary, thoroughly disinfect any portion of his own person and clothing, and any tools or appliances used by him, which have come in contact with infected material, and shall see that any assistant or assistants with him have likewise thoroughly disinfected their persons and clothing and any tools and implements used by them.

SEC. 7. It shall be the duty of any person in the State of Ohio, who is engaged in the rearing of queen-bees for sale, to use honey in the making of candy for use in mailing-cages which has been boiled for at least thirty minutes. Any such person engaged in the rearing of queen-bees shall have his queen-rearing apiary or apiaries inspected at least twice each summer season; and on the discovery of the existence of any disease which is infectious or contagious in its nature, and injurious to bees in their egg, larval, pupal, or adult stages, said person shall at once cease to ship queen-bees from such diseased apiary until the inspector of apiaries shall declare the said apiary free from all disease. Any person engaged in the rearing of queens who violates the provisions of this section shall, on conviction thereof, be fined not less than one hundred dollars, nor more than two hundred dollars.

SEC. 8. The Ohio State Board of Agriculture shall make an annual report to the Governor of the State concerning the operations of the Division of Apiary Inspection, which shall give the number of apiaries inspected, the number of colonies treated and destroyed by the direction of the Chief Inspector, and such other information as may be deemed necessary.

SEC. 9. Sections 5853, 5854, 5855, 5856, 5857, 5858, 5859, 13368, 5860, 5861, 5862, 5863, and 5670 of the General Code of Ohio are hereby repealed.

◆

A Hoosier Legislator on Bees.—It seems that the State Legislature of Indiana has a very smart (?) member who is desirous of changing the order of some things in that State. He does not seem to favor the present plan of bee-inspection, and as a sample of his wisdom in such matters here is his idea of the cause of the loss of bees from foul brood:

> "Indiana does not raise many bees because the climate is not suitable. During the warm spells in winter the bees go out of the hives into the cold, and, returning, are taken sick and succumb with a disease which is very much like tuberculosis in humans."

This bright, shining light inclines to call himself the "Apple King," and poses also as an expert on horticulture. We are informed that his last crop of apples were so poor that he turned most of them into vinegar. Perhaps his apples are mostly crabs! We doubt very much if he will succeed in revolutionizing things in the legislature. The wonder is how such specimens are ever elected to any office in the gift of the people. Is it possible he is a fair sample of those who elected him? It seems to be a pretty clear case "Where ignorance is bliss," etc., both as to voters and representative.

◆

As to Using Figures.—The following comes from Mr. John Phin:

"75 YEARS YOUNG."

> In your notice on page 168, of Mr. Anderson's age, there is a curious but very common mistake. He is said to have spent his 75th birthday carrying out 100 colonies of bees. If that be correct then he was only 74 years young. If he was 75 years young, that was his 76th birthday.
>
> This is a very common fallacy which I discussed in my book, "The Seven Follies of Science," 2d edition. It is of more importance than would at first sight appear. A learned professor in one of our colleges wrote a book in which he spoke of the 17th century when he meant the 18th. This was misleading. JOHN PHIN.
>
> Patterson, N. J.

Among the books that Mr. Phin has written is the "Dictionary of Practical Apiculture," and a man who has made a study of using language correctly when speaking of bees may well be supposed to be at home in the correct use of the English language in general, so that whatever he says upon that subject is deserving of attention.

It does not take much thinking to recognize the reasonableness of calling the day when a man is born the day of his birth, or his birthday. According to that, the first anniversary of his birthday should be called his second birthday, and as Mr. Phin says, when he attains the age of 75, he will celebrate his 76th birthday.

Unfortunately, the correct use of language does not depend so much upon what is reasonable as upon what is customary. The dictionary does not tell us how language ought to have been used in the first place, but how it is used by reputable speakers and writers now. In the Standard Dictionary, the two definitions of "birthday" are: 1. The anniversary of one's birth. 2. The day of one's birth. No great reasonableness about that, but that's the dictionary of it, and there you are. According to the first definition, one does not have a birthday until a year old, and annually thereafter has another. According to the second definition, one never has but one birthday, and that a year before the birthday of 2d definition.

Elsewhere Mr. Phin favors "bisulphid of carbon" rather than "carbon disulphid," as being the familiar label on the bottles. It so happens that the only labels the writer has seen were "carbon disulfide!" Yet it is likely that most readers are more familiar with "bisulphid of carbon."

Is Mr. Phin correct in saying that the eggs of the bee-moth are not killed by bisulphid of carbon?

International Congress of Apiculture.—The fifth International Congress of Apiculture will be held Sept. 10, 11, and 12, 1911, at Turin, Italy, during the International Industrial Exposition that is being held there this summer. The program gives a short list of subjects to be treated. It is printed in the French language. The president of the Congress for this year is Edward Perroncito, president of the Academy of Medicine, of Turin. Persons desiring information concerning this Congress should address Marcel Ottaviano, Place Chateau, 25, Turin, Italy.

Tributes to the Late W. Z. Hutchinson

It is with sincere regret that we have received the news of the death of Mr. Hutchinson, of Flint, Mich., the able aditor of the Bee-Keepers' Review, which took place on May 30th, last, after a long illness……

As a writer on bees, Mr. Hutchinson had few equals. He was clear and concise, and his love of the pursuit was shown on every page. We had known him since 1887, and our intercourse had always been of the friendliest. His loss will be severely felt by bee-keepers, and we extend the sympathy of ourselves and British bee-keepers to his sorrowing widow and family.—*British Bee Journal.*

It is with deep regret that we have learned of the death of Mr. W. Z. Hutchinson, who passed away on Tuesday, May 30. As many of our readers are aware, Mr. Hutchinson had been ailing for some time, but it was hoped that with the coming of the warm weather he would quickly mend. But it was decreed otherwise, and the bee-keeping world has lost one of its most distinguished individuals.—*Canadian Bee Journal.*

Thus passed away from this earth one of its *best* of men. Always hopeful, his life was an inspiration to others. Right up to the last he was laying plans for the future, and expected to get well. No matter what happened he was always looking on the best side, and may we, his students, not only learn the lessons of bee-keeping as taught through his writings, but may we learn the greater lessons of faith, courage and optimism as taught by his life.—E. B. Tyrrell, the new editor of the *Bee-Keepers' Review.*

The following are from Gleanings in Bee Culture:

The death of Mr. Hutchinson will be a distinct loss to the bee-keeping world, and those of us who were fortunate enough to know him best loved him as a brother. While I was not unprepared for the news, yet it came as a severe shock. I can not bring myself to believe yet that this quiet, modest man, who rarely spoke at conventions, but whose words will long live after him through the printed page, has gone. I could never think of him as a competitor, and when his paper grew I was sincerely glad……

I do not hesitate to say that Mr. Hutchinson was one of the ablest writers on bees that this country ever had. Indeed, I doubt if there is a man in all our ranks who was a better bee-keeper or a more forcible writer.—Editor E. R. Root.

On Decoration Day, May 30, 1911, while the thinned ranks of the old soldiers were on their way to lay their floral tributes on the graves of their departed comrades whom the grim reaper, Death, had gathered to himself, that same grim reaper made a gap in the ranks of bee-keepers that can never be filled, when he gathered to himself the creator of the Bee Keepers' Review. Although Editor Hutchinson had rounded out his threescore years, he seemed only to have just reached his prime—just ready best to carry on the work to which he had devoted his life. What his loss means to the inner circle of that home that was so dear to him can be left only to conjecture……

The immediate cause of Mr. Hutchinson's death was anemia. The operation that had been performed to relieve an acute condition was entirely successful. For a time he rallied, walked about some, and even went up town. On that day it happened to be cold and windy. He contracted bronchitis, from which he never recovered. In his weakened condition he gradually went downward; and although everything was done that surgical and medical aid could render, he began to grow weaker and weaker. But never once was he discouraged. He remarked to his dear wife, shortly before he became unconscious, "I don't know about the Review for June; but I guess I will let it go this month, and may be the next." He thought that, by so doing, he would be able to recuperate enough to take up the work again; but he kept getting worse until he became unconscious; and, shortly after, he passed away.

Not a member of any church organization, he did not hesitate to express to intimate friends a belief in Jesus Christ, and a grand future for all those who have tried to do right. Hardly anything less than Christian fortitude would have enabled him to bear with calmness afflictions that would have crushed almost any one else in his place.—Dr. C. C. Miller.

The demise of W. Z. Hutchinson, editor of the Bee-Keepers' Review, has made a chasm in the bee-keeping fraternity of this country wider than we are often called upon to witness in our brotherhood; and not only because of this, but also of the fact that he was taken off, so to speak, in the midst of his days when ordinary good health would still give him promise of many vigorous years of fruitful and effective labor, will his death be widely and deeply deplored.

By no one, perhaps, will this be more thoroughly realized than by myself, who have been personally acquainted and had personal intercourse with him, practically, during the whole of our bee-keeping life. I first learned of him more than 30 years ago through his writings in Gleanings; and as he lived in the adjoining county, but a convenient drive from my own home, I took occasion, about 30 years ago, to pay him a visit. I found him pleasantly located in a fine tract of country near the village of Rogersville, in Genesee Co. He was not at that time engaged very largely in the apiarian line, and even that was largely in queen-rearing, but he was full of enthusiasm; and since that time, though he has suffered many vicissitudes, his enthusiasm has never waned. He was always reticent, seldom or never laughed, but was remarkably even-tempered, and happy in his family relations. In my own relations with him he has done me many kind turns, and has done them voluntarily when there appeared to be no reason to expect him to trouble himself to do them.—R. L. Taylor.

It is with great sorrow and exceeding regret that I learn of the demise of my friend of more than a quarter of a century. A very brief acquaintance led to a thorough appreciation of the sterling qualities of Mr. Hutchinson, which was strengthened in all of the succeeding years. No one could know him and his work without convincing proof that he stood in the very front ranks of our bee-keeping fraternity. His quick intellect, coupled with his close attention to details, won for him, at the very start, phenomenal success as a queen-breeder. To this, apiculture owes its good fortune in securing his life-long service in its development. He was temperamentally exact and methodical transparently honest, and if I were to select one word to characterize our brother it would be genuineness. At conventions, going to and coming from them, at his home, at my own home, and in visiting together bee-keepers, I was much with him. He was delightfully companionable, and always alert for any new idea or suggestion touching the interests of the work to which he was so entirely devoted. His quick apprehension and terse, clear-cut style as a writer, made him a most reliable exponent of all that was latest and best in the theory and practice of his beloved art.—Prof. A. J. Cook.

He and I met frequently at conventions, and have always been on the most friendly terms. When he ceased writing for Gleanings, and started the Review, these friendly relations were in no way marred. From first to last his communications bore the stamp of honesty and sincerity. During the almost 40 years that have passed since I made his acquaintance, although there have been many jangles and some severe criticisms in print and elsewhere, I can hardly remember hearing of any one who criticised in any way our good friend W. Z. H……

How we shall miss his tall, upright, manly form as he stood up before us at conventions! He never made long talks, and he never got into jangles; but, no matter what was going on, whenever he took the floor, with that well-known beaming smile on his face, the room was stilled without any rapping by the president……May the Lord be praised that such a man as Mr. Hutchinson was permitted to enter the ranks of bee-keepers, and to labor for them so faithfully as he did during his busy life.—A. I. Root.

We have received the following from a California admirer of Mr. Hutchinson:

A Farewell to W. Z. Hutchinson

Is he gone, the good, the brave?
Surely him we can not spare;
Unto us his all he gave—
Gifts of mind and judgment rare.

One by one they pass away,
Masters of the honeyed art;
Who shall take their place that day
When we see them all depart?

Dauntless-hearted pioneers!
We inherit now the good
That they gave through all the years
For the cause of Brotherhood.

It was they who led the way
Where Elysian fields are found;
So they came at break of day
To the "Happy Hunting Ground."

Honor to the early few,
Leaders of our gentle art;
Glad we give them honor due,
And the tribute of the heart.

Those who love the fellow-man,
Serving with unselfish heart,
Serve God's providential plan;
Loving, choose the better part.

(Dr.) Frederick D. Webley.
Santa Cruz, Cal.

A Letter of Thanks.

We have received the following letter of appreciation from Mrs. W. Z. Hutchinson, which she wishes us to publish:

Flint, Mich., July 17, 1911.

Editor American Bee Journal—

Dear Friend:—I would like to have you, through your columns, thank the many dear friends of Mr. Hutchinson for the kind words of sympathy for me. There have been so many sorrowful tokens of love and remembrance that I would like to answer personally, but it is simply impossible for me to do so.

Sincerely,
Mrs. W. Z. Hutchinson.

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Hair-Pin for Transferring Larvae

With the useful hair-pin and the dangerous hat-pin, what is there that a woman will not do or dare? The latest is from Miss Ethel Robson, who is thus reported in the Canadian Bee Journal:

"I have something now where I think you will say the woman has an advantage over the man as a bee-keeper. When I prepared my queen-cells I didn't use the implements recommended by Mr. Clark. Being a woman I used a hair-pin; it was always handy, and one of the larger kind served fairly well to spread the royal jelly. For transferring larvæ, if you want to do it easily, get a fine hair-pin, and you can lift them out beautifully, and you don't even have to cut the cells down very far; you can lift them out every time."

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Bees—and Nerves

Under the above title it would not be unreasonable to expect to read about a case of nervous prostration caused by bees, but quite the contrary, this is a story of a frail little woman who by the means of bees is curing herself of one of the most seething hysterical, dyspeptic attacks of nerves that ever a feminine person was victim of.

Three years ago she was a wreck; given up for as good as dead by four physicians. She was emaciated, dyspeptic, neuralgic, unstrung. And somebody (with deliberate malice, she thought) made her a present of a colony of bees, and they scared her neurasthenic femininity half to death. She dare not go near them, but from her couch on the piazza she could not help wondering what was going on in the hive.

Finally, her curiosity caused her to ask her husband to get her a book about bees. He brought it home that very night, and she sat up until midnight to read it, and she could hardly wait for morning to come that she might have a chair taken out near the hive. That was the beginning of the expert knowledge of bees she has since acquired—and, incidentally, the cure of her nerves.

The second year she had 20 colonies, and this season she is running 50, and taking all the care of them herself. Early last April, she and her husband closed their house in town and moved out a little way into a two-room camp situated in the center of an apple-orchard. And it certainly is a pretty sight to see the pure-white hives dotted about on the green grass which surrounds the white camp with its broad piazza and hammocks and swing-chairs.

"But what about your housework? How do you find time to do it?" I asked her the other day while I sat on the piazza of the camp and inwardly admired the faint pink of returning health that is creeping into her cheeks.

"Why—there isn't any," she answered as gleefully as a child at a picnic. "My husband gets a hearty dinner in the city where he works, and they won't let me eat anything yet but malted milk and crackers—and that isn't hard to get. And we brought out here only a couple of couches and a cook-stove and a table and a few chairs—and my books."

And her bee-library is a gem. It contains almost everything reliable that has been written about bees, including the more intricate text-books that only interest experts; for she plunged into the industry with truly scientific spirit.

Only the other morning something happened at one of the hives that puzzled her. She took a low-hanging rocker out to the hive and sat there for over two hours watching for developments. Then she went back to the camp, took down her books and began to study it out; and she studied until she caught sight of her husband coming down the lane.

"Well, little woman," he called, "how goes it?"

She looked at him in amazement. "Fred, is it half past 6?"

"It sure is; but it's quite likely to be at this time of night—you robust little rascal."

"But I sat down here at 3 o'clock, and I didn't suppose I'd been here more than an hour."

And that is why her bee-work is curing her. She is completely absorbed in it. She loves her bees. And they love her—I know they do. She need never wear any protection from them; she is never troubled when they swarm; and she holds animated conversations with them as if they were really-truly persons.

She has not only worked up a steady demand for her honey, but she sells the fully equipped hives and gives lessons in bee-culture right there at her camp; she also goes afield to help other bee-keepers with their swarms, and she is a bee-mine of information for miles around. She is a member of the Massachusetts State Bee-Keepers' Association and the National Bee-Keepers' Association; and, best of all, she feels as if her life were worth the living, and she is every day gaining physical strength and mental poise; and her happy mental attitude has completely driven away her former morbidness. ALICE SPENCER GEDDES.

Wakefield, Mass.

Among the thousands of women who feel that life is not worth living because they are in the same physical condition as was Mrs. Susan E. Howard, the lady referred to in the foregoing, there are doubtless many who, like her, would find rejuvenation from a working acquaintance with the busy little denizens of the hive. The pity of it that more of them do not find it out!

◆

In Favor of the Sisters

D. M. Macdonald, in the British Bee Journal, referring to the fact that the Canadian Bee Journal has followed the example of the American Bee Journal in having a department of bee-keeping for women, says:

"This is a healthy feature in apiculture. I know none of the small cultures which can hold a candle to our craft, when viewed as an occupation suited to the gentler sex, and I see no reason why many of them should not take a place in the front rank of apiculture."

◆

Getting Bees to Work in Supers—Growing Sweet Clover

DEAR BEE-KEEPING SISTERS:—I wonder if any of you are ever troubled about having your bees start work in the supers. This is the way I have just now treated a very refractory colony:

Hive-body No. 1 was clogged with honey. I had previously raised quite a bit of the brood into hive-body No. 2, with an excluder between, and had them building cells according to Doolittle. The curious part of it is, they did not seem to plan swarming until I placed a super of sections between the two. Then they sulked and hung out. I gave some of this unsealed honey to other colonies to ripen, but to no purpose. They could think of nothing but swarming. So now I have placed the super on the hive-bottom, with a wire-screen between it and No. 2, leaving an entrance at the back of No. 2. Above this, with an excluder between, is No. 1, with the queen.

All this may not be quite orthodoxy, and not according to the bees' instincts (to swarm). But when those bees have gone down through the excluder, and out of the back door of No. 2, and around to their own entrance to find no queen, no honey, and no brood—in fact, no home, only those despised sections—I wonder will they work in them? Will they still be minded to swarm?

After a few days I will re-arrange on the old plan, perhaps making nuclei of the brood in No. 2.

Another little kink may not strike some favorably on account of the work; but like some husbands (and perhaps a limited number of wives) I was determined to have my own way.

I have some land which raises very good crops of sand-burs, but I preferred sweet clover. I do not care to throw away money and time on seed that *doesn't catch*, so I began to experiment. First, I tested my seed and found that the germination was all right. I then took old paper sacks used for cement or flour, and with a lath for a ruler, marked and cut strips the width of the lath, and from 8 to 12 inches long, according to convenience in cutting the strips. I wound these twice around my finger, as one thickness of paper is hardly strong enough, and fastened the ends with a pin. As pins can be had at 4 cents for 4 papers, they are not expensive.

These little circlets I placed on one open end in a large dripping-pan—a board would serve as well; filled them with moist, rich earth, and planted a few seeds in each one. When these little bottomless paper plant-dishes are well filled with roots, I shall set them out in rows, not more than 2 feet apart (preferably after a rain), not removing the paper, and as deep as the plants will admit. I propose to keep down weeds as carefully as if I had set strawberries. I am in hopes that in a year or two the seed from these plants will fill the ground, and I will let them have full possession.

If I find that the sweet clover honey is inferior to basswood, I can mow it just before the basswood flow.

As I am running a 20-acre farm—recently purchased—with only a 12-year-old boy to help me, you may be interested to know more of my bee-keeping experience. Part of this land is swamp that has been drained, and is very rich. A lovely grove on the back of the place, mostly basswood, will be put out to timothy and alsike, and will be used as pasture for my dairy. I think I will set here and there plants of sweet clover, and watch the struggle for supremacy. I shall find out, too, if my cattle will eat the sweet clover.

I intend to make a tall hedge of a variety of perennial flowering vines around my bee-yard, as I am not far from the road, and I can enjoy the beauty as I work with my bees. Many other things I have planned, which will require time and labor, but I dearly love it all. EMILY H. JACKSON.

Kibbie, Mich.

We will be quite curious to know how you come out with your experiment. One would hardly expect the bees to do much in those sections, and if they do work on them, what will they do with their pollen? You will not want them to dump the pollen in the sections, and what other provision is there for it?

We have never found that sections placed under brood-combs were nice and white, bits of dark wax from the brood-combs being used, more or less, to seal the sections; but we never used wire-cloth between, only the excluder, and that may make a difference.

Your method of setting sweet clover plants should surely be successful where the soil makes it difficult to get a catch. You certainly deserve a good stand as the result of so much labor; let us hope you will get it.

By all means let us hear from you again.

Tin vs. Galvanized Steel for Honey-Tanks.—E. D. Townsend says in Gleanings in Bee Culture that all his honey-tanks are of galvanized steel, but that he shall use tin hereafter. "Tin is easier to keep clean, but the main point is, honey is not injured if allowed to stand in tin as it is in galvanized steel."

CANADIAN BEEDOM

Conducted by J. L. BYER, Mt. Joy, Ontario.

Much Nectar and No Bees, or No Nectar and "Much" Bees?

Two conditions occasionally confront a bee-beeper that are not relished overmuch, and as to which one is worse I am not prepared to say. One is to have abundance of nectar in the fields and the colonies not in shape to take advantage of it, and the other is to have bushels of bees in the hives with no nectar for them to gather. I have had one experience with the former condition, and two or three with the latter, and, personally, if there is any preference, I would choose the latter, as somehow I do not feel as though I am to blame so much as is possible when the bees are not prepared to take advantage of any flow of honey that may come along.

In a nutshell, I might say that this season I had abundance of bees, and that there was no nectar in the immediate locality. Extreme drouth and heat must be responsible, I suppose, for in districts not over 30 miles from here there has been a fair flow.

As stated some time ago, the clover was badly damaged in the spring, and the weakened vitality of this source of nectar may have helped to bring about the failure. Anyway, there is little clover honey in our section, and to make matters worse, farmers tell me that nearly all the seeds for next year have been killed. At two of my yards no rain has fallen for over a month, although heavy showers have gone all around these places. At this date (July 11) everything is parched and dry, and not an acre of buckwheat has been sown, so far as I know. At the home yard a big acreage is coming up within reach of us, all of which shows how even a distance of a few miles may make a big difference in a honey crop, some years.

Blueweed or "Blue Thistle" as a Honey-Plant

I am enclosing a branch of a plant that grows very plentifully in eastern Ontario, and is, I believe, a source of considerable nectar. The local name is "blueweed," and the scientific name *Echium vulgare*, if I am not misinformed. Perhaps the editor of the American Bee Journal can tell me more about the plant, as I have been wondering if it is the same plant known as blue thistle, from which Capt. Hetherington used to get so much honey, down in Virginia.

Last May I purchased an apiary some 200 miles east of here, and, from what my son writes me, I am led to believe that much of the honey gathered in that locality comes from this blueweed, so, naturally, I am curious to know more about the plant. I am told that it is very plentiful in some sections in eastern Ontario, but this has been my first experience with it. Perhaps some of the friends in localities where this plant is well known, can tell us something as to its honey-yielding qualities. —[Prof. Cook, in his "Bee-Keepers' Guide," includes this plant in the list of nectar-yielders. Prof. Walton says: "It is the common borage—*Borago officinalis* — and a fine honey-plant." Who can tell us more about it?—ED.]

A Young "Canuck" in an Out-Apiary

This apiary in the east was not bought until late in May, and my son, who is only 16 years of age, went out to take charge on the 29th of that month. He had never been in the yard with me more than two weeks, all told, and his practical experience consisted only of a couple days' queen-clipping and some work in the extracting-room. The apiary had 220 colonies, and the extracting combs were almost a negative quantity, consisting of less than one very shallow super to each hive. This meant that thousands of frames had to be wired and filled with foundation, and a great many supers had to be nailed up. Some 2100 frames were shipped to him in the flat, besides some hundreds that were on the place that had to be wired.

The season came on early, and swarming started before supers could be made ready, and things were pretty interesting, I think, for a lad that had been going to high school steadily for about 4 years, and then stepped abruptly into work of such a different character. However, he seemed to weather the gale all right, and it was only when he was confronted with the task of hiving swarms all day to the exclusion of getting time to prepare supers that he consented to have help sent out to him. A man was sent to help him, and as near as I can tell at this distance away, he seems to have enjoyed the work all right, and by fall will surely know if he still "wants to keep bees," as was his plaint when he wanted to quit going to school.

These details are simply given by way of encouragement to some other youngster that may be enamored with the idea that bee-keeping is his vocation for life. The point I wish to make is this: My son was *anxious* to go at the work he has been engaged in this summer, and as a result he has not grown homesick or tired of the work, notwithstanding the fact that many days he had to be moving lively from early morning until late in the evening. Had he been sent out under compulsion, and forced to work at something that was distasteful to him, what a difference there would have been.

As one goes through life he can not help but observe how many misfits there are in this world, and I often think of that little book, "What to Do, and How to Be Happy While Doing It." Truly, if all people could only know the work they were cut out for, a lot of misery and dissatisfaction would be avoided.

I forgot to say that at the yard in question the queens were not clipped. The bees are all of the black persuasion, and the combs had not been handled very much, and as a result it was impossible to think of getting the queens clipped with the limited time at our disposal.

Hiving a lot of swarms must have been a revelation to my son, as at home we have had little swarming and the queens have always been clipped. A bushel basket on the end of a long pole was used under the direction of the gentleman the bees were bought of. This device, while similar to the one used by Mr. Chapman, of Michigan, was not borrowed from that bee-keeper, however, as it has been a fixture in the apiary for some years. As the trees in the apiary are all quite low, there seems to have been no trouble in getting the swarms hived, even if 20 did come out in one day!

I might add right here that if all goes well the entire apiary will be requeened with Italian stock shortly, so I hope that another year the swarming will be cut out almost entirely. Of course, we will have drawn combs another season, and that in itself will help a whole lot, as all know that with nothing but comb foundation to put in supers, it is a different problem from that of piling up supers of drawn combs as they may be needed.

After speaking of my preference for Carniolans some may wonder at my declared intention of requeening with Italian stock. I would just say in explanation that the locality is threatened with European foul brood, and the best authorities who have had experience with this disease, tell me this step is the safest one for me to take. I *hope* the Carniolans have this resisting trait to that disease to the same extent as have the Italians, but as nearly as I can decide, this is to be proven yet. In the meantime, I have thought it best to go with the crowd in this matter, and, anyway, I feel that it will be a big improvement on the present stock in the apiary.

Rearing Queens from Eggs vs. Larvae

Joseph Gray, of California, writing in the Canadian Bee Journal, claims that the common practise of rearing queens from worker-larvæ has the effect of "getting inferior stock," and says that the proper and natural way is to rear from the eggs instead. He is the apiarist in charge of an establishment devoted to queen-rearing, and he claims that he practises that system entirely, if I am correct.

While I would not like to say that all queens reared from larvæ are not what they should be, yet experience taught me that many of them are in that class. Whether the change advocated by Mr. Gray would bring about a decided improvement, I am not prepared to say, but it certainly does look as if his plan is closer to Nature, as bees usually, if not always, use eggs for rearing their queens, and only resort to the use of larvæ for this purpose when thrown into an abnormal condition.

While I have had little experience in queen-rearing, yet I have often wondered why eggs were not used instead of larvæ, as to my unpractised eye the egg seems almost as plain in the cell as a freshly-hatched larva. In justice to the common practise, I will have to confess that in August, 1910, for the first and only time I grafted a few cells and reared half a dozen queens, and this summer one of those queens had by all odds the best colony in the home apiary. It is only fair to say that this queen was reared from the colony that had given best results for two years in succession; and then who knows but what, if the queen had been reared from an egg instead of a young larva, she might have given better results than she did?

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

Making Rapid Increase of Colonies

There are various ways of making increase, and the bee-keeper must select that method which best suits him, the locality, and his circumstances. Then there are various times in which such increase can be made most profitably, and this must be studied out by each individual to suit his particular case.

We have found during our many years of manipulations, and after trying many ways of making increase, that for us, at least, there are ways of increasing one's number of colonies from year to year without interfering materially with the honey crops; that is to say, we can increase our colonies in such a way that we will have both increase and a crop of honey at the same time. To do this we have practiced about as the following outline of a season's work in this respect will show:

In the late fall of the year, or during the winter months when there is no other crowding work, we spend most of our time in fixing up our apiaries, cleaning up the yards, straightening and leveling up the hives, and all such work necessary to put the apiaries in tip-top shape for the following year's work. Sometimes this work is delayed for some reason until early spring, but it is generally gotten out of the way before the busy season begins.

During this time, however, we plan to leave only 40 colonies in each one of the apiaries, although we have 50 in each yard during the honey season. All colonies above 40 in number are moved to other places and new yards started with them, again placing 40 in each of the new yards as far as this is possible. For instance, if there are 64 in one yard, 24 are taken to another place. If 53, then 13 are taken away, and added to as many others from other places to make 40 for a new yard. These colonies are always moved to the nearest new yard to prevent long moving, thus making the establishment of new yards so much easier.

Having all our yards with 40 colonies each, we plan to make an increase of a dozen at each yard during the spring before the time for the honey-flow comes. Allowing the 2 out of a 40-colony apiary may be dead, or too weak so that they must be doubled up with other colonies, it is necessary to make a dozen more to make the proper number of 50 colonies in each yard. Of course, sometimes none are missing, and often one or 2 more than usual, and thus the yards will vary, sometimes, around the 50 mark. But we figure that we will use a dozen new queens for each apiary for the spring increase, and so many dozen for as many yards as we have.

Just what method of making increase is used depends, in all cases, upon the condition of the bees and the weather, and is best learned by the bee-keeper. However, in the early spring *we* use almost the same method as at all other times, there being two ways of procedure. In the one we resort to the strongest colonies in the yard for our increase, in the following way:

If the weather conditions are right, and honey and pollen are coming in, brood-rearing is going on nicely, and the colonies have become very strong in bees and brood, we have many that have spread their brood throughout 3 of the shallow stories of our divisble brood-chamber hives. About a week before we intend to make the increase we place a queen-excluder between the story that we want for our increase and the rest of the hive, be the former above or below. This is done in such a way, by smoking the most of the bees out of the story wanted, as to run out the most of the bees and the queen (if she should happen to be in this one), and this not only gives us a queenless story with combs of bees and brood, but prevents the queen from laying in it long enough so that there will be no eggs and very small larvæ that would be destroyed when the division is made. Besides, it saves hunting for queens; and knowing that each of these shallow stories is queenless, we can at once give the new queens without having to fear any mistake or oversight, and a consequent loss of some of the new queens introduced to the newly-made colonies.

Having the queens a week later, we remove each story thus excluded from the rest of the hive, with all its contents and all the bees that may be in it, to a new place where a bottom-board has already been prepared on its stand, and a cover is within easy reach. A queen is given at once, the cover placed on, and then the entrance is chucked full of green weeds or grass so that not a single bee can escape and return to the old stand. They are thus left alone until we return some weeks later to find the bees have gnawed away an entrance through the weeds, which are now dried down and may be removed entirely if the colony is strong enough, or these may be left until later, thus acting as a partial obstruction and entrance-closer against robber-bees. The bees will remove them gradually, anyway, if not needed, and hence do not need the attention of the bee-keeper at all in the first place unless he cares to look after it. All the queens should be found laying also, and the little hives beginning to be crowded for room. This is easily and quickly supplied by removing every cover from a group of 5 hives of these new colonies, and setting on each another shallow story containing extracting combs with some

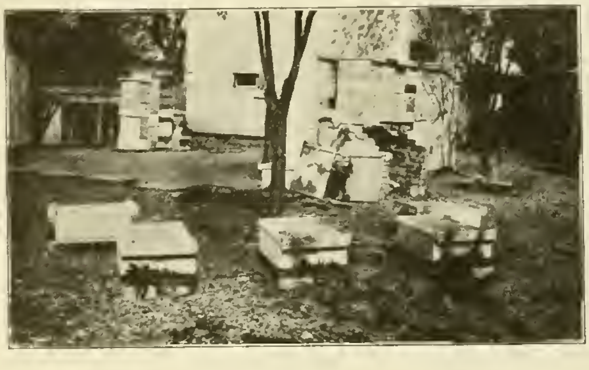


Fig. 1.—A Group of Five Newly-Made Colonies of Increase.

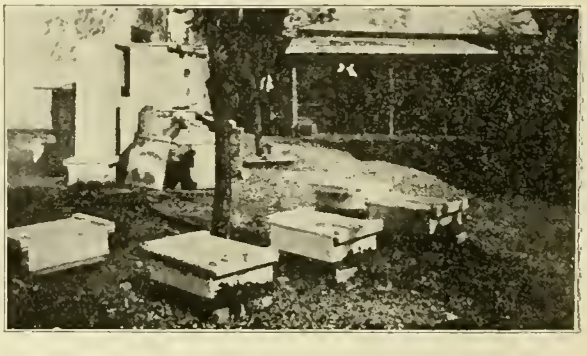


Fig. 2.—Scholl's Ideal Method of Making Increase.

honey in them. All the covers are then replaced, and the colonies build up rapidly for the main honey-flow.

Now there is another way in which we make our increase, under certain conditions. If the colonies are all in about the same condition for a honey-flow that may come early in the spring, we use all our efforts toward building them up to rousing colonies so that we may reap the largest possible amount of honey from them. In this case we will not use the strongest colonies for our 10 colonies of increase that we wish to make, but, instead, we select the weakest, of which there are always several in the apiary. These are divided into 2 or more, in very much the same way as described above. As soon as these are strong enough again, they are further divided until the apiary has the full number of 50. While these new colonies will not store any honey for us during the first flow, we have, however, been able to reach our full number of colonies in the yard without disturbing those that were strong for the honey-flow, and we thus got a crop of honey, and our increase, too. Those that were divided would not have produced very much honey, hence it was the better plan to use them for making the required increase.

Another time, when we can make more increase, is immediately at the close of the honey-flow, making use of the "tail end" of the flow, as it were, for getting the new colonies in fine shape. Our method of procedure is the same as in the early spring, using the excluders a week ahead of time, then making the new groups of as many colonies as is desired. In this case the strongest colonies are again drawn from, unless another subsequent flow is in sight, in which case the weakest are again divided, and the strong ones kept prepared for the flow.

We also have another opportunity to make still more increase in the fall of the year, by taking advantage of not only the dark fall flow of honey that the new colonies may be able to gather and build up strong on for the winter, but by using supers of honey from the strong colonies in the yard from which no increase is made, and helping the new ones with it. After the new colonies are formed, another shallow story or super is given them some time later, as first described, and they are then ready for winter, after forming their brood-nest in the two stories in the best possible shape.

Thus we are enabled to make a lot of increase throughout the year, and in such a way that we do not interfere with the honey-storing colonies, and consequently procure a good crop of honey besides the increase in number of colonies. It is possible thus to make from 20 to 30 colonies in each yard above the 40 that will then be left in the yard in the fall, which are again used to establish as many new 40-colony yards as there are colonies at our disposal for this purpose.

BEE-KEEPING IN DIXIE

Conducted by J. J. WILDER, Cordele, Ga.

Honey Reports and Prospects

When last reports came in the spring honey-flow in most locations was just on. Conditions changed, and an average crop was gathered. Saw palmetto on the east coast of Florida gave an average crop. Gallberry in south Georgia and Florida gave nearly an average crop. Owing to the drouth last winter and the past spring, the gallberry was burned very close by the farmers in some sections, and there the flow was light. Then, too, the continued drouth cut the blooming period off considerably, but the flow was unusually heavy while the bloom lasted. The poplar gave a good crop.

The prospects were never brighter for a heavy flow from cotton. At this date (July 12) the bees are working in the second and third supers, and the strongest colonies have the first super completed. The plant is very rank, and will yield for 30 or 40 days yet. From reports, bee-keepers in the great cotton-belt will have a great harvest from this source.

The patridge-pea in middle Florida is yielding, and the prospects are good for an average crop from this source. Cabbage-palmetto and mangrove along the east coast of Florida are in bloom, and the flow is unusually heavy. Basswood in Alabama and farther western States gives a good yield.

The abundance of heavy rains of late have brought up the fall weeds, and prospects are good for a late fall flow.

* * *

Cotton as a Honey-Plant

There is perhaps no honey-plant that has come into more prominence in the bee-keeping world of late years than the cotton-plant. It has been compared to the clover of the North, but its great value as a honey-plant has been known for only a few years.

One good feature about this great honey-plant is that it gets better and better each season. I can remember when bees gathered only enough nectar from it to stimulate brood-rearing, and now we get from one to three supers of surplus honey from this source alone. I don't know whether it is because we are better bee-keepers than we used to be, or have a better stock of bees, or that the plant grows more prolific than it used to, and is more general. I am inclined to think it is mostly due to the latter.

On land where we used to make a bale of cotton to 4 or 5 acres, now we make from 1 to 2 bales per acre, using high grades of commercial fertilizer, and more prolific varieties of the plant. It yields more where it grows best, and of a much longer duration. As a nectar-yielder it is not excelled by any other honey-plant in Dixie. I have often heard cotton-planters remark that while laying it by in the early mornings, their pants' legs would get thoroughly saturated with the nectar while following the plow, by the limbs and leaves coming in contact with them, and later in the day the heat would evaporate it there, and the pants would be sticky, and have a greasy appearance. It evaporates by 9 or 10 o'clock in the morning, during hot, dry weather, and the flow comes on again about 3 o'clock p.m. But it is on all day, if it is cloudy or the atmosphere be damp.

It sends its nectar out between the inner shuck of the blossoms, and the cells on the main stems of the leaves on the underside—here it is very prominent, and in great abundance, and the bees have only to make one visit each to a leaf for their load. But the nectar in the shuck of the blooms does not

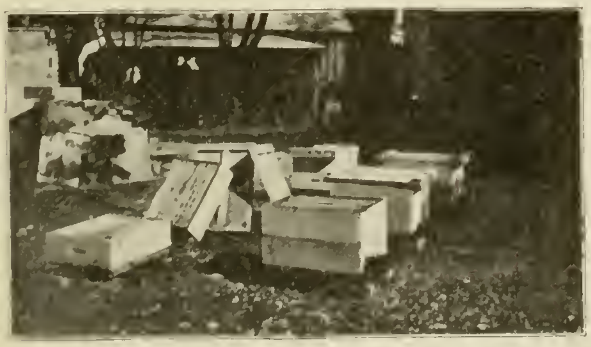


FIG. 3. EACH NEW COLONY RECEIVES ANOTHER SET OF COMBS.

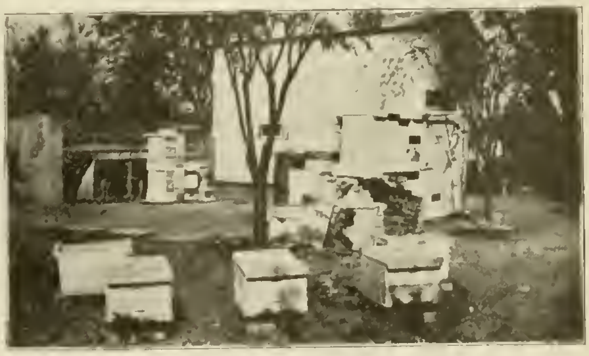


FIG. 4.—SCHOLL'S IDEAL GROUP OF 5 READY FOR THE HONEY HARVEST

evaporate so rapidly, and the bees gather from here nearly all day.

The heavy roar of the bees in early morning, gathering nectar from this source, gives the bee-keeper a revival in his pursuit that he does not get over from season to season.

Along large streams in the great cotton-belt bees gather but little cotton honey, because the snowvine and other similar vines, which grow in great abundance along such streams, begin yielding before the cotton does, and continue throughout the summer. The yield from such sources is very slow, and does not amount to much in surplus, but the bees get started on it, and they don't quit, and the flow from cotton comes on and passes off, and is hardly noticed by the bees.

I have some apiaries located in just such sections, with thousands of acres of cotton surrounding them, but it is ignored by the bees, and I don't know why they pass over the large cotton-fields with nectar in such great abundance, and fool away their time along the rivers and creeks on the minor honey-plants, unless it is because the nectar from cotton contains so much more water, and therefore is harder to evaporate. Cotton honey is nearly as clear as water in appearance, but when well ripened it is a fine table article of honey.

Too Much Drone-Comb

I use sectional brood-chambers and my bees build too much drone-comb in the shallow frames with starters, and the swarms break down full sheets. How can I overcome this? A BEGINNER.

ANS.—Wire the frames as per instructions in your bee-book, or use ready-built comb; or you can use a heavy grade of comb foundation and have the top-bars made thicker, and fastened in by the groove-and-wedge plan.

A Colony Getting Weaker—Why?

MR. WILDER:—I am deeply interested in bee-culture, but I have not studied it long, and I write for a little information.

I have one colony that I think is queenless, and the way I judge is, that they don't work, and for the last 2 or 3 weeks they seem to grow weaker and weaker. Until this time they have been an industrious colony of Caucasian bees. W. T. GASKINS.

Ray's Mill, Ga.

Mr. Gaskins, no doubt this colony of bees needs your immediate attention, but it may be too late to lend them a helping hand now, for the bee-moth may have almost completely destroyed their comb. But let's see what is really the trouble, and apply a remedy.

Let me say, first, that when it comes to the management or the practical side of bee-keeping, outward appearance is wholly unreliable and can't be depended upon. We just can't tell when they are doing well or otherwise just by the few bees that we may see flying in and out at the entrances of the hives, but we can tell by examining the comb.

We do not invest our hard-earned dollars in modern bee-hives just for tidy homes for the bees, or for a better appearance than our old-style box-hives and log-gums presented. While they do appear neat, this is not their great feature, for the greatest is that they admit of the bees building their comb straight in movable frames, which can easily be lifted out of the hives and examined at our will; and this has to be done if we keep bees successfully or profitably.

While you are not accustomed to handling bees on their comb, you can examine the doubtful colony about this way:

Smoke them just a little at the entrance, and remove the cover, and the super, too, if it should have one on it, and as you remove it send under it some smoke; then send a little down between the frames of comb and pry the one loose that appears to be most easily moved, with a screw-driver or some other similar tool. Lift the frame out and examine it carefully, and set it on its end, and lean it up beside the hive. Take out and examine another frame, and set it back in the hive, and so on until all have been examined. If there is considerable brood (young bees in all stages of development in the cells) scattered around in almost all the comb, it may have swarmed, which may account for the shortage of bees, and now they have a young queen. Place all the frames back in the hive as nearly as they were as possible.

If you should not find any brood it may be queenless, and you should give it a frame containing some tiny bee-larvæ from which they will make a selection and develop for themselves another queen.

If the colonies should have dwindled down to only a double handful of bees, better set the hive on top of some other colony, so the bees can use the frames to store honey in, or keep them rid of the moth and save them for future use.

If there is a gallon or more of bees in the hive, it can be built up by adding a frame of sealed brood to it every few days, but while exchanging combs be sure not to exchange any old bees. Should you find but little or no honey in the hive, you should give them a frame of honey from some colony which may have it to spare. Bees very often run short of stores and dwindle down, as you describe.

If you should find that the moth were webbing up the comb, you should pull them and their web out, and if the combs are damaged too much, render them into wax at once, but if you can save even a few of the combs, do so by setting them on a strong colony.

Should you decide to save the colony and build it up, you should not give it more comb than it can well cover, or it may get mothy again.

Keeping More Bees

With all things considered, I have no room for complaint of my bee-business, and I will have to "keep more bees" or turn down orders for honey. Would you advise me to keep more bees?" ENTHUSIAST.

ANS.—"More bees" is one of the greatest questions that now confronts Dixie bee-keepers, and a very serious one to answer. If I say "Go ahead" to every one that asks me for this advice, some will most surely fail, and I am blamed; while others will succeed and I am praised.

There are a lot of professional people who are to some extent bee-keepers, and the question of "more bees" often comes from them. To such a class I always say, "Go slow;" because they are less apt to take hold and do the necessary work in establishing a large bee-business, and about all they would do would be to furnish the capital and hire the work done, and this is yet to be proven profitable in the bee-business. But to the inquirers as above, who have been successful, surrounded by unlimited territory and a ready demand for the product, and ready to shoulder the burden of work, I say, "Keep more bees."

Cure for Bee-Loafing

My bees all seem to be loafing, for they have covered the front of their hives, and it looks like a swarm hanging out at the bottom. Give me a cure for bee-loafing.

A READER.

ANS.—Elevate the hives from the bottoms by means of two strips about ¾x¾, cut the length of the hives, and placed under the sides. Then if they don't go to work there is nothing in the field for them to do, which is not often the case here in the South.

Bee-Keepers, Get Right

Bee-keeping in Dixie is burdened with Doubting Thomases, and bee-keepers that are "on the fence," and don't know which side to get off on—better bee-keeping and "more bees," or just continue to keep a few bees in any kind of a way, as usual.

If interested bee-keepers knew that they could go ahead and establish a large bee-business, and thereby make money, they would jump at the proposition. But they are standing around looking on with doubtful eyes. Can you give a solution to this critical problem that confronts so many interested?

Then there are some bee-keepers who hold some amount of prejudice or ill-will, or in some way are distant towards some member of their craft. Brother bee-keepers, this ought not so to be. Let's get right, and have the good, warm feeling for each other that we should have, and stand ready with helping hands to assist a brother in any way opportunity may afford.

"Bee-Keeping by 20th Century Methods; or J. E. Hand's Method of Controlling Swarms," is the title of a new booklet just issued from the press of Gleanings in Bee Culture. While it is written particularly to describe Mr. Hand's methods of controlling swarms by means of his new patented bottom-board, the booklet contains a great deal of other valuable matter, among which is the following: The hive to adopt; re-queening; American foul brood; wintering bees; out-apiaries; feeding and feeders; section honey; pure comb honey; conveniences in the apiary; producing a fancy article of extracted honey; swarm prevention by re-queening; increasing colonies, etc. The price of this booklet is 50 cents postpaid, but we club it with the American Bee Journal for a year—both for $1.30. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

CONTRIBUTED ARTICLES~

Shallow Frames for Nuclei

BY LEO ELLIS GATELY.

For cell-starting no arrangement under the sun will surpass a single section of the divisible hive. For all kinds of nucleus work, the mating of queens, shipping long distances, etc., the baby hives shown in the illustration herewith, holding three shallow frames, are unequaled.

When undesirable drones are troublesome, a dozen or so of these baby hives can without difficulty be loaded into a buggy and be taken 3 or 4 miles to some isolated spot where young queens can be mated with almost absolute certainty.

For shipping, they are light and strong. The combs being but a few inches deep, and solidly attached to the bars at all points, are in little danger of breaking, while just as many bees can be transported upon them at a lower rate, and will come through in better condition.

While considering, during my earlier experiences with apiculture, the vital question of hives and frames, I confess to much apprehension as regarded the adaptability of the shallow frame to queen-rearing and nucleus forming. Knowing, however, the many advantages which such frames possess in honey-production, I decided in favor of their adoption, trusting to luck and my capacity for meeting all such emergencies in one way or another when actually confronted with them. As to results, I find that the advantages contained in this class of hive and frame are so enormous and manifold, that were I compelled to purchase all my young queens, I would still find their use profitable.

Since, however, reaching that point in my business where a considerable amount of queen-rearing and nucleus forming has become necessary, I am forced to the diametrically opposite conclusion, that they are, if possible, even more adapted to the requirements of such work than for honey-production.

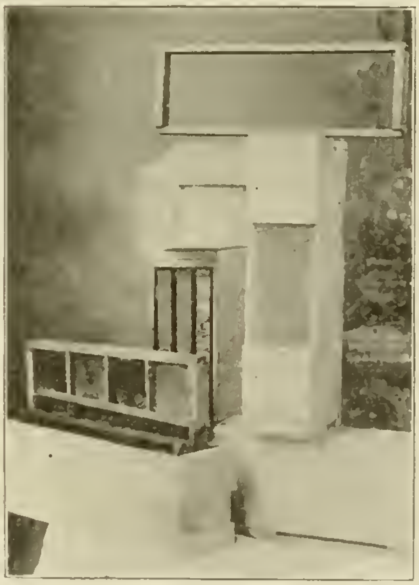
Saline Co., Ark.

Watery-Looking Capping of Section Honey

BY G. M. DOOLITTLE.

A correspondent writes that he has had the Italian bees only a year or two, and that these bees gave him section honey which looked bad on account of the cappings of the cells having a watery appearance. He says his black bees never gave him such looking honey, and wants to know if this is a characteristic of the Italian bee. This question carries me back to more than a quarter of a century ago when this matter of watery-appearing honey was the subject of considerable discussion among the bee-keepers meeting in our New York State conventions; for, at that time, the Italian bees were coming into prominence, and very many condemned them on account of their being so economical of wax and space as to give their comb honey the appearance which our correspondent says his had. Some could not think that the trouble was in these bees using less wax, while others claimed that such was the case, and that by their doing so they were more valuable because less honey was used (for the secretion of this less amount of wax they used) for finishing their comb-honey product.

But I am satisfied that the using of less wax has not so much to do with this matter as has their laying (if I may be allowed that expression) this wax right down upon the honey, rather than having a liberal amount of air-space between the honey and the capping, as is generally allowed by the black bees when finishing their product. This appearance of the finished product had very much to do with comb-honey men being slow to accept the Italian bees, while those working for extracted honey were loud in their praise. But, as the Italian bee would produce a better average of any kind of honey, year after year, it finally became the generally accepted bee by nearly all of our apiarists.


SHALLOW FRAMES FOR NUCLEI AS USED BY MR. GATELY.

At the time of this controversy over these bees, extracted honey was selling at from 15 to 25 cents a pound, while comb honey brought very little more, so it was very little wonder that the Italian bee was especially recommended for an apiary worked for extracted honey, while the blacks and hybrids were thought by some to be much the better bees for comb honey.

Not long after this it became apparent that certain strains of Italian bees, and those coming from mothers several generations removed from imported stock, gave combs of a whiteness which nearly, if not quite, equaled those produced by black bees, and many bee-keepers set to breeding in this direction until the success along this white-capping line was so manifest that very little regarding this matter has appeared during late years, although very many still claim that we have no need of further importations of bees from Italy, for the darker Italians, which generally come from all imported queens, still give this watery capping. However, as far as my experience goes, I think that a great advance has been made along this line of white capping of comb honey in Italy, as well as in this country. But upon close questioning of very many who claimed that the bees were to blame for this watery look in their honey, it was often brought to light that the fault was more in their keeper than with the bees, and this fault is not altogether gone to-day.

I remember well of going to visit an apiary in the '80's where the apiarist claimed that his bees capped their honey so watery that it was almost unsalable. Upon going to see his "stored" honey, I was at once convinced that the race of bees had very little to do with the matter. I asked him when he first noticed the watery appearance of this honey. He said he noticed it a little when taking it from the hives, but more especially when he commenced to prepare it for market, as at this latter time he inspected it more closely.

Now, this honey was stored in what was called the "cellar kitchen," the same being partially under ground, and where the sun and air could scarcely get at it at all. Now, such a place is all that is needed to give any nice, white, capped honey a watery appearance after it has stood there for a month to 6 weeks. Honey is very susceptible to moisture. In storing it in this damp room the honey had taken on moisture, thus becoming thin and expanding until it reached the capping of the cells, and this would give it the same appearance as of that where the bees placed the wax next to the honey when capping it. Upon a closer inspection, I found that the honey in the unsealed cells which surrounded the capped honey, next to the sides of the sections, had taken on so much moisture that the cells were fairly rounding full. To convince him that it was the room, or place where he stored his honey, that was to blame more than the bees, I carefully lifted a section, called his attention to these over-full cells, when I turned the section so the face side of the comb was down, when very much of this thin, watery stuff in the unsealed cells ran out on the floor.

He now gave me a lesson on handling sections, saying that they should never be handled that way, for he had noticed when putting up the new cases he had prepared for market that if handled as I was doing the honey would run out and make things "mussy and dauby."

I now asked him if he had this mussy, dauby trouble when he took the honey from the hive, and he admitted that he did not notice it, but gave as a reason for not doing so that he was in a hurry at that time.

I now took another section and handled it "in a hurry," when this thin honey flew out all over the floor. He stopped me almost in anger, when I told him that I was doing what I did, as a lesson to prove to him that he had taken off his honey in a hurry, as he said, and that if the bees were the ones to blame for its watery appearance, he would have had honey strewn all about on his honey-carrier and over the hives; and as he did not have this state of affairs when taking from the hive, he must admit that the honey was thinner now than it was at that time; and suggested what every observing bee-keeper had found out sooner or later—that the only proper place to store honey is in a dry, warm, and airy room.

I then told him how the sides and roof of the building where I stored my honey were painted a dark red, so as to absorb the heat from the rays of the sun, and the room was brought to a high temperature by the time of the setting of the sun each day, while the pile of honey held this heat well into the night, so that I had an average temperature of nearly 90 degrees. By storing honey in such a warm, dry room, even watery-appearing honey, when taken from the hive, would be much improved by the time it should be prepared for market, and that in the unsealed cells become so thick that it would not run out, no matter how roughly handled, unless so roughly that the combs were broken. "Where store honey?" after it is off the hive, is a very important question, and while I have only touched on the matter here, I think I have said enough so the reader will know what to do in the future, if he or she did not fully know of the matter before.

Borodino, N. Y.

Bees Working Out Comb Foundation

BY C. P. DADANT.

The two articles concerning experiments upon the working out of comb foundation by bees, which appeared in the May and June numbers of American Bee Journal, and which were the result of very substantial experiments by Foloppe Brothers, of Champosoult, France, are worthy of careful perusal.

Several points are elucidated by them. The most important of these is the fact that in "drawing out" comb foundation, as we call it, the bees secure strength to the cell-wall by *turning* and stretching the malleable material in a circular way, instead of simply outwards towards the edge of the cell. This "potter's method" no doubt secures greater resistance. It was a revelation to me. It can not fail to increase our admiration for this intelligent little insect.

Another very important fact that has been proven is, that bees thin out and use the extra wax contained in the foundation much more efficiently if it is given them before the crop is in full force. There are two possible reasons for this action. The first is that they have ample time, when there is no crop, and that they will naturally use everything to the best of their ability. An excess of wax in the comb is useless. With plenty of leisure they can make this excess useful. But if the crop is on, in full, they find themselves crowded for room, cells are needed at once, and before much depth is secured some bees will have deposited honey in them. This puts an end to further improvement or manipulation. Then, in a heavy honey crop, the stomachs of the bees being full most of the time, the process of wax-secretion begins, involuntarily or otherwise. On this we are not yet sufficiently informed. But does it not seem probable that whenever the bees are compelled to remain loaded with honey for a long time, the transformation of a portion of it into beeswax becomes a natural necessity without any volition on their part?

This being true, it becomes important to furnish the comb foundation to our bees somewhat ahead of need. It is not only a matter of saving, it is also a question of doing away with any "fishbone" toughness about which we used to hear so much when a heavy-base foundation was used for sections. This toughness is becoming less and less as the manufacturers learn the necessities of the apiary. But if we can let the bees have the material a little in advance, they will certainly have a better chance to put it in shape.

I believe that some honey will be saved, also. That is to say, less of it will be changed into comb. For if our bees have the foundation on hand, the combs will be more elongated, and that will give more room for honey, requiring thus a less production of wax in a given space of time.

Another evidence drawn from this study is that comb foundation measuring 5⅓ feet to the pound will furnish ample wax for the entire comb. As these experiments are made with foundation cast from a press, and as such work is tougher and less malleable than that from the rolls or cylinders employed in this country, it is probable that sheets measuring 6 feet to the pound will furnish very nearly all the material necessary, and that it is an error to use anything heavier. Naturally-built comb is undoubtedly lighter than this weight, but we can not expect the bees to reduce the thinness of brood foundation down to that of a natural comb. Super foundation is now made as light, or nearly as light, as the natural base, and it is only the angles which the bees may be expected to thin out in the case of this.

The additional evidence drawn from this study is that sheets made in a mould, such as is mainly used on the continent of Europe, are of poorer quality and of less strength than those made by the rolls, which are laminated out in the process of manufacture. Such a result might be expected. Although there is perhaps a greater tendency in laminated foundation to stretch or get deformed, owing to its malleability, yet its regularity causes a more remote possibility of breakdown than in the same weight or even a heavier weight of goods made in the moulds used in Europe.

These experiments show us how much there is yet for all of us to learn on the most unimportant subjects of bee-culture. We, of America, are quite practical in taking hold of new things and putting them to the best possible use. But in the matter of experimental tests, where every point is taken into consideration and nothing left to chance, our cousins across the ocean are still in the lead.

Hamilton, Ill.

Honey-Packages and Their Display

BY G. C. GREINER.

With another year's experience of managing my own retailing of honey, I am fully convinced that the honey-producer is well paid for the effort it requires to sell his products direct to the consumers. By doing so, quicker and better sales with higher prices are secured, and the producer has the assurance that his goods arrive at their destination in good condition. The various expenses connected with shipping to city markets, such as shipping-cases, transportation, cartage, the wholesalers' and retailers' profits, etc., are saved to the producer, and help to increase his net profits, to which he is rightfully entitled.

I am not a natural salesman; to solicit sales among strangers is a task which I do not enjoy; it is contrary to my natural inclination, and to overcome this trouble I find that an attractive and inviting display of the goods we have to sell is more than half the battle in building up a trade.

In the case of extracted honey, the package we use plays an important part in pleasing the consumer. Not only should it be tempting in appearance, but it should not be too extravagant as to its cost. From the accompanying picture, which represents my weekly display at our city market, it will be seen that I use the standard glass top Mason fruit-jar, pints and quarts. Although I pay a good price for them—much more than any of the many advertised tin containers would cost me—they are the cheapest in the end. When they are filled with water-white, sparkling clover honey, as I produce it in my locality, with a finishing touch of a neat, tasty label, and exhibited as shown in the picture, it is not strange that my wagon brings forth many exclamations of admiration, and, as a consequence, many sales follow.

Some time ago, in one of our popular bee-papers, Mr. Scholl called this package "the distasteful Mason jar," while he boomed the tin pails, friction-tops, and other tinware, which he uses for his chunk honey, in glowing terms as the cheapest, most practical and advisable package all around. I greatly admire Mr. Scholl's literary ability of turning every argument in his favor. But that doesn't change facts; it takes something else besides smooth oratory to change the people's mind; they generally know a good thing when they see it. I admit that those tin packages have a few good points, but to compare them with the Mason jar and try to make producers and consumers believe that they are cheaper and better, is all talk. Travel all the country over from North to South, from East to West; go where you may, you will find those tin packages which Mr. Scholl praises up so highly, on all garbage piles, not only by the hundreds and thousands, but by the millions. They are gathered up as soon as they are stripped of their contents and carted to some out-of-the-way place as useless rubbish, but not one of those distasteful (?) Mason jars can be seen! Every one that was sold with honey and emptied is serving a profitable purpose in some family household, while somebody's pocket-book has to suffer for that endless waste of useless tinware.

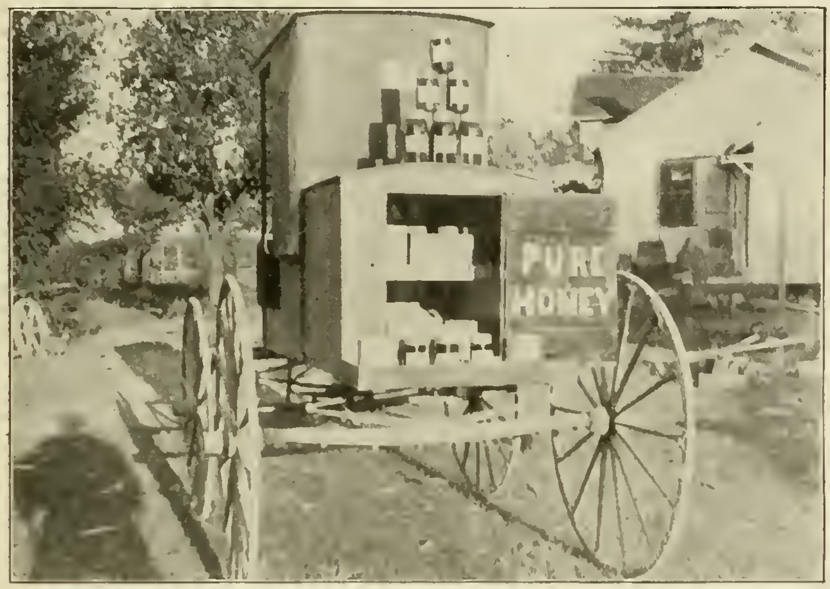
Is it the manufacturer who stands this loss? No, he gets his pay for every shipment he sends out. Neither does the honey-producer contribute to the welfare of the public; he simply adds a proportionate amount of his tinware-bill to every package he sells, and he is very sure to add enough. If the honey is sent to the city market, whether sent on commission or sold to the wholesaler, it is all the same—these middlemen add their profits and expenses to the goods, and the question, Who pays for the packages? remains still a matter of uncertain solution. But when the honey is finally retailed and passes into the hands of the consumer, the program is changed; he is made the scapegoat for all the rest. Like the lamb before its shearer, he willingly submits to being fleeced out of the price of a worthless tin-dish every time he makes a purchase of this kind. This state of affairs, as it is in general vogue at the present day, is undoubtedly one of the main causes why we hear so much complaint of the high cost of living.

In another place Mr. Scholl speaks disapprovingly, if I understand his meaning, of Mason jars being returned. This is one more strong point in their favor. It saves the consumer a needless expense, and secures me another sale of honey. Occasionally consumers make inquiry in regard to this point. Their reason for making the proposition is generally one of the two—they either have no use for the empty jars, or they wish to return them as a matter of economy. I always agree to take them back and allow a certain amount for them on their next honey-purchase. This pleases my customers and does in no way discommode me, and that next honey-purchase will in nine cases out of ten materialize in proper time.

Another feature that makes the Mason jar—and, in fact, any glass container—more desirable than tin, is their transparency, to say nothing about cleanliness. It gives the would-be purchaser a chance to examine the goods he wishes to buy. Some people do not like to buy the cat in the bag, as the saying goes, which they are compelled to do when buying goods put up in any kind of tinware.

Since writing the foregoing, I have received the Report of the National Bee-Keepers' Association, which convened at Albany, N. Y., last fall. The pleasure and information derived from the perusal of its pages is alone worth more than the membership fee. Every member is entitled to a copy of this Report, and the bee-keeper who is not a member of the Association misses a great deal.

La Salle, N. Y.



Honey-Wagon of G. C. Greiner, and His Weekly Display in City Market.

CONVENTION PROCEEDINGS

The Idaho-Oregon Convention

The Southern Idaho and Eastern Oregon Bee-Keepers' Association held its 10th annual convention Jan. 11, 1911, in Caldwell, Idaho. Although that day was cold and wintry, about 60 bee-keepers were present from various parts of Idaho and Oregon, where the bee-keeping industry is extensively carried on. Four of those present represented the gentler sex in bee-keeping, who were about as active in the discussions of the convention as the brethren, thus proving the time-honored axiom that talking is one of the cardinal virtues of woman!

The convention held two sessions, both of which proved to be "rousing good meetings." The morning session was devoted principally to the program, with Pres. Lyon, one of the most extensive bee-keepers of Idaho, in the chair.

The address of welcome by the President of the Caldwell Commercial Club, and the response by Mr. McClanahan, on behalf of the association, were enjoyed by all. The latter stated that this was the best attended convention the association had ever held.

Priority Rights Discussed.

The first number on the program was "Priority Rights." It was ably discussed by J. E. Lyon, F. A. Powers and T. H. Waale. The general opinion was that an alfalfa district of 3 miles square was sufficient territory for supporting 1000 colonies of bees. Some held that this number was too large One bee-keeper estimated that 5000 acres of cultivated land was capable of maintaining 1500 colonies, which was considered by those present as an extremely low estimate. Another member believed that upon 1000 acres of average alfalfa land, 400 colonies could be profitably kept. But the bee-keepers who discussed this important subject recognized, from the first, the difficulty of placing a limit upon the territory for bees; for what applies to one locality does not apply to another. It depends, almost wholly, upon local conditions, and the capacity of the honey-plants to secrete nectar.

One member was of the opinion that the Boise Valley—one of the largest honey-producing territories of southern Idaho—was already overstocked. He stated that from a point 10 miles north of Caldwell east to the Sebree Canal, a distance of some 35 miles, there were between 1700 and 2000 colonies of bees. Considering the narrowness of the valley, he declared that this number was too large for the territory occupied.

E. F. Atwater, who is one of the largest bee-owners of Idaho, stated that he believed the several vicinities for keeping bees in the State were fully occupied at present. He thought that no inducements should be offered to outside apiarists until the new, undeveloped land was opened up.

Every bee-keeper present agreed that while a man has the legal right to start an apiary wherever he has the same right to plant a potato patch, he by no means has a moral right to do so; and that a bee-keeper who thus unscrupulously takes advantage of the law and his fellow bee-keepers justly deserves some such punishment as the apiarists of the Imperial Valley Association of California propose to inflict upon any bee-keeper who encroaches upon the rights of another—that of "smoking out" the intruder even though it takes 10 percent of the colonies of bees—and there are several thousand of them—in Imperial Valley. No definite action in regard to this plan, however, was taken.

Two or three members favored the suggestion of appealing to the State Legislature in order to obtain the passage of a law to regulate this matter. But this plan was immediately ruled out of order, owing to its impracticability.

As a result of the lively discussion of priority rights, a committee of three was appointed for the purpose of greeting new bee-keepers, and pointing out to them the unoccupied territory for bees, with the object in view, of course, of preventing overstocking in any one locality. Since it is estimated that between 2 and 3 carloads of bees will be shipped into Idaho during 1911, such a committee will undoubtedly prove beneficial to all concerned.

Marketing and Organization.

This topic was next taken up, and opened a broad field for discussion. Mr. McClanahan's talk on this subject was as practical as it was entertaining. Opinion was general that there should be some system arranged whereby prices could be maintained; but as the noon hour was so near, action was deferred until afternoon. Before adjourning several members rightly urged the necessity for proper grading of honey; for the price buyers will pay, they said, is largely determined by the quality of the grade.

Election of Officers.

During the afternoon session the business of the convention was taken up. The following were elected officers for the ensuing year: President, J. E. Lyon, of Boise; vice-president, A. I. McClanahan, of Payette; and secretary and treasurer, E. F. Atwater. of Meridian.

Shortly after the opening of the afternoon session the two tiny daughters of Mr. Roseman entertained the audience with a song, entitled, "The Hum of the Bees," which was well received.

Foul Brood.

The question of controlling and eradicating foul brood was informally discussed. T. J. Yoder gave his experience in handling this dread disease, and stated that foul brood was fast getting a foothold in Idaho; that unless radical measures were taken, the disease would ultimately destroy the bee-keeping industry in Idaho. A committee of 6 was then selected to wait upon the legislature—or rather, the Committee on Appropriations, perhaps $1000, for the thorough enforcement of the foul brood law. Although Idaho has had for some years a satisfactory foul brood law, the bee-keepers have had to hire an inspector themselves in the past, and the principal part of this appropriation, if granted, will be expended in employing one or more foul brood inspectors.

Mr. Bradshaw and the Nelson brothers then spoke upon "Sections and Section Supers," after which various minor phases of bee-culture were taken up.

To Keep Up Honey Prices.

The matter of organization and marketing again being brought up, the-bee keepers determined to bind themselves more closely together in order to uphold prices in marketing honey, and therefore agreed to sell all their honey during the coming year through one medium. J. E. Lyon, of Boise, was unanimously selected to take charge of this important task—of selling in carload lots whatever honey the bee-keepers of the Association produce the coming summer. This, perhaps, is the most important step the apiarists of Idaho have yet taken, for it means the establishment of an even price, with the bright prospect that carload after carload of well-put-up and properly packed honey—the proud product of the Gem State—will be shipped East and West—in fact, to markets all over the United States.

This plan, it is believed, will prove more successful in Idaho than would one, such as the bee-keepers of Colorado have adopted in their organzation; because the apiarists of Idaho, unlike those of Colorado, who are clustered mainly around Denver, are scattered here and there all over the State, so that it will be an easier matter to make up car-lots of honey at various points—such as Boise, Payette, Weiser, Ontario, and other centers of honey-producing territories—than to attempt to bring all the honey produced into one city before final shipment is made, as is done in Denver. Next year, therefore, there will be but one price of honey in Idaho. The State may well feel proud of what the bee-keepers here have done in the past, and hope to do in the future.

The Best Convention Yet.

The bee-keepers adjourned at a late hour in the afternoon, every one pronouncing the convention a grand success. Not only were the sessions exceptionally fine—the discussions and addresses—but the social part of the convention was a success. Every one seemed to enjoy himself thoroughly—especially in meeting his fellow bee-keepers. Throughout the meetings good-will and harmony reigned; a feeling of brotherhood—and we may also say sisterhood—prevailed, for several of the sister bee-keepers attending lent a refining atmosphere to the sessions. Without doubt, the convention was the best attended and the best enjoyed the Association has yet held.

The Bee-Industry in Idaho.

It does not seem to be out of place in a report of this kind to conclude by speaking briefly of the bee-keeping industry in Idaho. Its magnitude here can, in a measure, be realized when it is known that the apiarists present at the convention represented some 8000 colonies of bees, without counting the 3000 or 4000 colonies owned by bee-keepers who did not attend. It will thus be seen that the bees of Idaho constitute about one-sixtieth of all the colonies in the United States.

Idaho is destined, we bee-keepers believe, to become a wonderful honey-producing State. A bright future is undoubtedly in store for the bee-industry of this State. The seasons are long, the country is well supplied with honey-plants—alfalfa, sweet and white clover and yellow mustard—these plants can generally be depended upon to yield a fair secretion every year; the summer days are long and hot, the nights warm—all conditions, in fact, seem to favor the production of honey, although in this country, as in all others, there are certain drawbacks, such as occasional late June rains, which cause dampness in the hive, from which the bees frequently contract paralysis, and thus cause a shortage in honey. Foul brood is another drawback here; but on the whole, Idaho has the natural conditions for successful bee-keeping. But at present the honey-producing territory of Idaho, as Mr. Atwater reported in the convention, is fully occupied; in fact, some parts of the State are already overstocked with bees. Do not think for a moment that the bee-keepers of Idaho are selfish, for they are as fine a class of men as are to be found anywhere; they want all to share the benefits of a good honey-producing State—indeed they do—but at present they justly feel that the bee-keeping localities here have all the bees they can now support. The opportunities for an outside bee-keeper are therefore not very inviting, the inducements offered to him are not particularly alluring, although it must be said in fairness to all that here and there throughout the State a fair location for bees can be found.

But Idaho has acres and acres of undeveloped sage-brush land, which will be opened up, it is hoped, in the near future. Most of this land will undoubtedly be put into alfalfa, since hay is the one great crop of Idaho; and when that is done, ideal bee-pasture will be available to any who care to occupy the new territory. Therefore, until the new land of Idaho is opened up and cultivated, the Eastern bee-keeper should not be encouraged to settle in this State. Albert J. Lynn.

"The Amateur Bee-Keeper"

This is a booklet of 86 pages, written by Mr. J. W. Rouse, of Missouri. It is mainly for beginners—amateur bee-keepers—as its name indicates. It is a valuable little work, revised this year, and contains the methods of a practical, up-to-date bee-keeper of many years' experience. It is fully illustrated. Price, postpaid, 25 cents; or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

"In Everything Give Thanks."

Yesterday our preacher spoke from the text "In Everything Give Thanks." As my bees have not stored any surplus honey this season, and it has been very dry, so that even the farm crops are going to be short, I was wondering while listening to the sermon, just how bee-keepers in my condition could "give thanks." It no doubt would help some if you could give some explicit directions in this matter. Now, please don't say "I don't know," for I am sure you do know, and will give an answer that will help many bee-keepers who are in the same predicament as I am this year.

OHIO.

ANSWER.—As I am in the same boat with yourself, I can at least tell something about how it is "in this locality." Here it is in the last end of July with everything dried up and the stock in the pasture needing to be fed hay. Not only has there been no surplus honey to take off, but in some brood-chambers there's hardly a pound of honey.

Well, I'm thankful that I don't have to work as I would in a prosperous year. I can lie abed in the morning if I feel like it, and I can sit here on the porch answering your question in the pleasant part of the day, whereas in a busy year I might have to get up at 4 o'clock to get enough time to answer you.

I'm thankful that I don't have to bother about getting a crop ready for market; that it will be no loss to me if the price is low, and that I can rejoice with the other fellow if the price is high.

I'm thankful that my preparation for this year's crop stands good for next year. Within sight is a field which was sown and the crop a failure. Next year all the plowing and sowing will have to be done over again, and fresh seed bought. It's not as bad with me as that, for I'll not have to buy fresh sections; the same sections and foundation that were stacked up in the shop all ready for this year's crop will be all right for another year.

But what is there to grumble about, anyhow? When a man goes into bee-keeping as a business, it is the understanding—the contract, if you please—that he will have good years and bad years. The bad years are part of the contract; why grumble?

I'm thankful that good years have been so good that they overbalance the bad.

Even if I can not understand all about it, I am thankful that I have a Friend who does understand, in whose control are all things, and that He has such love for me that he sends just what is best for me; and not the least of the blessings he sends is a thankful heart that allows me in everything to give thanks, crop or no crop.

Five-Band or Golden Queens—Cedar and Redwood for Hives

1. Are the 5-band or golden queens any better than, or as good as, the 3-band leather-colored Italian queens? I don't know anything about 5-band or golden queens.

2. Is there any factory that makes bee-hives of red cedar? Will the California redwood make as good hives as the red cedar? I want hives made of the best material that can be had. COLORADO.

ANSWERS.—1. There are goldens and goldens. Some are good, and some are poor, according to all accounts; while the 3-banders, as imported from Italy, are more uniform and of a more fixed type.

2. I do not know of any factory using cedar, although there may be such. Neither do I know just how redwood and cedar compare, although I have an impression that cedar is the better; but that impression may be wrong. Is any other wood better than white pine?

Fastening Comb Foundation to Frame End-Bars

Should comb foundation come close to the end-bar of the frame and be fastened there with wax? I wire my frames.

MINNESOTA.

ANSWER.—Either will do, but it is well to have the foundation come close to the end-bar. But it is not necessary to wax it there.

Moving Bees on the Railroad

What is the best and safest way to ship bees in full colonies, say 200 miles? Would it be all right to cover the top and bottom of the hives with screen-wire, and place one inch strip under the hives on the car floor? or would they smother in hot weather in that way?

WEST VIRGINIA.

ANSWER.—They ought to do pretty well in the way you mention. Still better if a frame be fastened on top of such depth that there will be a space of 2 inches between the top-bars and the wire-cloth. Of course you will have the frames run parallel with the track, and will have the hives fastened so they can not move. If the weather is hot it will be a good thing to keep the bees sprayed with water.

Transferring—Requeening—Increasing

I have a few colonies of bees in box-hives which I would like to transfer, requeen and increase. I thought some of using this plan: Get them good and strong, drum out most of the bees, and put them on full sheets of comb foundation. Would it be best to introduce a queen immediately, or wait until the hive is full of brood? When all of the brood is hatched out in the box-hive, drum out the rest of the bees and put them into another hive, thus making 2 colonies out of one. I have never had any experience with requeening. If you know of a better plan, I wish you would describe it. I had thought of doing this in August, and feeding sugar syrup if the fall crop failed, so as to have them ready to gather a crop of honey next spring. Would you advise this? WEST VIRGINIA.

ANSWER.—There is danger that if you try to requeen at the time of transferring, the bees will feel themselves queenless, and having no brood in the hive will desert. You will be safer against that if you introduce the new queen after there is brood in the hive. Of course you will put the drummed-out swarm on the old stand and the old colony on a new stand. A day or two later you can fasten between the combs of the old colony a ripe queen-cell of choice stock, and this being older than the other cells will furnish the queen. This will be at least a little gain over introducing a laying queen when all the old brood has hatched out at the time of the second drumming.

If you have a good fall flow you are likely to come out all right. If you have to depend on feeding, it may be better to postpone till next May, for feeding does not come up to the natural flow.

A Queen Experience

I had an unusual experience with one queen this season. I released her on combs of hatching brood and left the hive unmolested for a few days, till quite a lot of bees had emerged; then I put the combs in the hive on another stand. A little later I added another comb of hatching brood without any bees, and on examination later, I found that there was no laying queen in the hive, and that the bees had started queen-cells. At this time (July 15) the colony seems to be queenless. Has Dr. Miller ever had a like experience? I would like to know what became of that queen. IOWA.

ANSWER.—If there was also unsealed brood in the "combs of hatching brood," and if you gave bees with the first combs, there is nothing unusual in the case. I suppose, however, that there were neither bees nor unsealed brood; and the question is, Why should bees that have never known another mother turn against their own queen? One solution of the problem is to consider it a case of supersedure. I have never had a case alike in all particulars, but more than once have had a queen superseded when if it had been left to my judgment I should have said there was no occasion for supersedure. There are also cases in which bees ball and kill their own queen when the hive is disturbed, and it is possible that this occurred when you gave that last frame of brood.

Pickled Brood

Is there a cure for pickled brood? I know that during a good honey-flow the bees generally get over it. The inspector told me it was pickled brood. My bees did not get in shape for a crop of honey until about the time it stopped.

CALIFORNIA.

ANSWER.—Pickled brood seems hardly a disease, but is believed by some to be only brood dead through chilling or some other cause, so there is no cure for it, and it needs no cure, disappearing of itself. If you are not sure as to what ails your bees, you would better send a sample of the brood to Dr. E. F. Phillips, Department of Agriculture, Washington, D. C., and after analysis you will be told just what is the trouble. It will cost you nothing, and if you write in advance to Dr. Phillips he will send you a box in which to mail the smple, together with a frank to pay postage.

Bees Hanging Out—8-Frame Extractor

1. I hived an extra large swarm July 2. The hive was nothing but a trap, so I transferred the bees into a hive with full sheets of comb foundation, July 3rd, but they would not go into it, but would bunch out on the front. I thought the

heat had something to do with it. It was 100 degrees in the shade.

2. Would it pay to have an 8-frame honey-extractor for 300 colonies?

3. I lost my membership badge. Where could I get another? Ohio.

Answers.—1. Yes, very likely it was the heat. You were fortunate that the bees did no more than to bunch out, for under such circumstances they are quite likely to go off for good. The right thing is to shade the hive well, and to give abundant ventilation. Raise the hive on blocks an inch or so, at least at one end, and shove the cover forward to leave about an inch opening, leaving it this way for 3 or 4 days. It will do much to make the bees stay if you give them a frame of brood. In such very hot weather it is well to spray the hive with water.

2. Very likely it would.

3. I suppose you have reference to membership in the National Bee-Keepers' Association. Very likely you can get another badge from General Manager N. E. France, Platteville, Wis.; but of course you ought to pay for the second badge, perhaps 5 cents.

Bleaching Comb Honey—Keeping Down Increase

1. What is the best way to bleach travel-stained comb honey?

2. Will it work all right to keep down increase, when working for comb honey, to return prime swarms, cutting all queen-cells at the same time? New York.

Answers.—1. I have never had experience in the matter, but some have reported success by simply exposing to the light. A south exposure, allowing the direct rays of the sun to shine upon the sections will work more rapidly than a north exposure, but care must be taken with a southern exposure, for in a place too confined, and with sections too near the glass, the heat might be so great as to melt the comb.

2. In some cases it would work, but generally the bees would swarm again in from one to 10 days. But if you remove the old queen, wait until you hear the young queen piping, and then cut out *all* queen-cells, there will be no more swarming, unless once in a great while the colony swarms out with the young queen, leaving the colony hopelessly queenless.

Do Frogs and Toads Eat Bees?

I have seen a frog on the alighting-board of the hive, and close to the entrance late in the evening, just when the bees have clustered on the outside these warm, dry days and night. I did not see Mr. Frog eat any bees at this time, but I wonder if he doesn't? Missouri.

Answer.—Yes, there has been a good deal of testimony that frogs and toads eat bees. Toads are such useful creatures in the garden that they may pay for eating a few bees by the number of injurious insects they destroy.

Some "Shaking" Experience in Swarm-Control

A colony which I had "shaken" this spring, upon finding queen-cells, had been standing more than 3 weeks (possibly 5), when I noticed dead bees on the landing-board, and many more coming out and tumbling over. (Queen-cells were destroyed at the time of shaking, and a week later.) On looking into the upper story I quickly found a virgin queen which was being balled in lively fashion; a queen-cell had been overlooked, evidently. I immediately got the virgin out, and the fighting ceased at once; nearly a quart of dead bees was the result of the fight!

I figured that the virgin had been shut up in the upper story until "something had to be done," and the bees had "taken sides" and were fighting it out on that line.

I related the incident at the recent summer meeting of the New Jersey Bee-Keepers' Association, at Spring Lake, and no one would believe it; said "it was impossible that bees would fight among themselves in the hive"; "it must have been a case of robbing," etc. It was not a case of robbing, I am *positive* of that. The case is so unique that I woud ask your comment.

In this connection I would say queen-cells in the upper story of shaken swarms, when no increase is desired, and the original hive-body is left on top as an extracting super, has been my chief annoyance with that method of swarm control; and the idea of providing an entrance (at least temporarily) at the rear for the upper story in all cases of shaking swarms, has occurred to me as a good means to let the bees settle the upper-story-queen business for themselves. If the surviving queen is needed elsewhere she is ready, and if not wanted she may be eliminated soon after hatching; in the meantime there will be no "overlooked" queen-cells to make trouble. I would not think this arrangement would lead to swarming. How about all this? New Jersey.

Answer.—It is not always a safe thing to say that a thing can not happen merely because one has not seen it oneself. It so happened that one of my first experiences with bees was seeing two workers fighting. There could be no question in the case that they both belonged to the same colony. I have no idea why they fought. Such a case is probably very rare, as I have never seen one since. But I have had quite a number of cases that parallel yours, that is, cases where there was a chance to take sides. At least there was every appearance of that kind. A queen would be introduced and an unusual number of dead bees would be found in front of the hive, and the only way I could account for it was that sides had been taken and a battle ensued. We know very well that sometimes a cell or a virgin is allowed to remain and sometimes destroyed. As there are two ways of deciding the thing, it is nothing impossible to believe that there might be a division of opinion, the arguments succeedng to violence.

In most cases, when I have tried having a virgin over an excluder, the queen has in some way disappeared. Others report success. At any rate I see no harm in trying your plan, provided swarming does not result. I don't know, but I'm afraid that sometimes there would be swarming.

Stingless Bees—Best Working Bees and Most Disease-Proof

1. If I would get a stingless queen, could I introduce her to a colony of blacks or Italians? If she would live, could I get a start of stingless bees in that way?

2. What kind of bees are the best workers?

3. What kind are the least apt to get diseased? Indiana.

Answers.—1. Stingless bees are so utterly different from our common honey-bees that I don't believe you could get them to work together any more than you could honey-bees and bumble-bees, and I don't believe it would be possible to have a stingless queen accepted by either blacks or Italians.

2. Italians are probably as good as any.

3. Many, among them some of the most prominent foul-brood inspectors, are very emphatic that foul brood, perhaps especially European foul brood, can be overcome much more readily with Italian bees. The late E. W. Alexander held it as an important part of his treatment for European foul brood to introduce an Italian virgin or queen-cell.

Super from Foul-Broody Colony—"Educated" Bees

1. A super has been used over a colony affected with American foul brood. Only a few cells affected in the colony, but some of them in the advanced stage. The bees have not worked in the super. Would it be safe to place this super over a healthy colony?

2. In the American Bee Journal for July appeared an advertisement of a dealer who offers queens from his "*Educated* strain of golden Italians." What is meant by "Educated?" Are the bees educated to read or write, or smoke cigarettes, or act as umpire in a baseball game? In what way could bees be "educated?"

3. Is not such as advertisement as referred to in No. 2, misleading when looked at seriously? Indiana.

Answers.—1. Wm. McEvoy, and I think most of the foul-brood inspectors, do not think it necessary to disinfect a hive in which a foul-broody colony has been, and there would seem to be still less danger from a super that had been over, but not worked in.

2. I don't know; perhaps Mr. Britton will explain.

3. I'm afraid so.

What Kind of Hive to Use

Please give me some advice on what kind of hives to use. North Carolina.

Answer.—Opinions differ as to what is the best hive. Some are partial to this or that particular hive which the majority of bee-keepers would hardly take as a gift. The greater number, however, perhaps 9 out of every 10, would tell you to take the 10-frame dovetailed hive. You can hardly go amiss on that. But please remember that the hive does not make very much difference in the work of the bees. A good colony of bees will store just as much honey in an old-fashioned straw hive as it will in the most up-to-date hive. But it makes a big difference to the bee-keeper whether the hive is such that he can easily get at the honey and perform the various manipulations that he may think necessary.

How to Cure Idle Bees—Raw-Tasting Honey

1. The condition of the hive is as follows: Plenty of bees, queen present, no unsealed brood, very little sealed brood in the hive, and the brood-chamber crammed full of honey. The bees refuse to work in the supers even when baited, and hang out on the hive in a great cluster. No preparations are made to swarm, and the colony lies idle when there is plenty of honey to be had. What I would like to know is this: How can I get the bees to work, and how can I get the honey that is in the brood-chamber into sections, as I run almost entirely for comb-honey?

2. A day or two ago I removed a super of honey, either basswood or sumac, which was entirely sealed over. Upon tasting the honey I found it left a raw taste in my mouth. I suspect it was green, and gave it to the bees again. How can I tell when it is ripened?

3. Won't those bees mentioned in ques-

ton No. 1 soon feel the lack of brood? Tell me what to do, as two-thirds of my bees are in this condition. They have sealed honey along and above the top-bars, but refuse to work in the supers. The weather is warm, so I do not think lack of warmth hinders them.

New Jersey.

Answers.—1. The condition of affairs is very unusual, and on the face of it would appear impossible on any supposition except that the bees are of such a poor strain that they will do nothing when there is plenty of chance for them to be gathering. In that case the only remedy is to introduce a queen or queens of better stock. The conditon of affairs you describe, however, is about what one would expect to find in the fall in a good colony, and it is just possible that you are mistaken when you say, "the colony lies idle when there is plenty to be had," but that there has been a gradual shutting off of the harvest for some time, the bees ceasing to rear brood and filling up the brood-chamber, the same as a colony does in the fall. If this supposition be correct, there is nothing to be done unless you extract some of the honey in the brood-chamber; but in that case you would have to feed afterward if there should come no fall flow. If a good fall flow should come, it might be that brood-rearing would start up; and in order to empty out the cells for the queen the bees would be obliged to carry the honey above.

2. Generally honey is ripe when it is sealed, and it may be that the objectionable taste comes from some peculiar plant. If that be the case, the bad taste may or may not disappear. Indeed, basswood itself has the reputation of a raw taste until it has attained a certain age, and that taste may disappear even if the honey be off the hive. I know of no way you can tell when it is ripe except by the taste and the consistency.

3. As brood-rearing has ceased, the strength of the colony will gradually diminish, but very slowly, as the bees on account of lying idle will not die off very fast. I know of nothing further to be done except as I have suggested in the first answer. It may be some comfort to you to know that my bees are likewise doing nothing in the supers, and are not as well off as yours, for they have not the brood-chamber crammed with honey. A poor season is one of the things that the most experienced is unable to fight against.

Getting Increase—Destroying Queen-Cells—Average Crop per Colony—Other Questions

1. When a first swarm issues how long is it before the young queen emerges in the hive?

2. When you put on supers in the spring, do you look for and cut out queen-cells?

3. I have 9 colonies, and one is far ahead of the rest as honey-gatherers. How can I requeen the other 8 from this one, and not break it up or reduce it in bees?

4. If you had the above colony how would you go about getting all the increase possible out of it?

5. In setting the new swarm in place of the old one, and moving the old one to a new location, it seems (with me) to demoralize the old one, and it never amounts to much afterward. Is there no better way than this to prevent a second swarm? How do you manage them?

6. How often do you go over a colony to destroy queen-cells to prevent swarming?

7. Is once every 7 days enough?

8. What is about your general average per colony in an average season?

9. Do you destroy drones during or before a honey-flow, or do you ever pay any attention to them?

10. Do you take out sections as fast as finished, or do you leave all on until the flow is over?

11. Do you give each hive a full entrance when you put on supers?

12. How is the lettering or spelling in raised letters on comb honey done? Please explain.

13. While trapping drones this spring I caught a queen in the trap. Do queens ever leave the hive except with a swarm?

14. If you had two strong colonies and wished to increase them to as many colonies as possible, how would you go about it?

Missouri.

Answers.—1. The first afterswarm issues about 8 days after the prime swarm (perhaps sooner, perhaps later), and the young queen probably emerges the day before that, say about a week after the prime swarm.

2. Generally the time for putting on supers and for beginning to look for queen-cells will not be far apart; but it can hardly be said to be "in the spring;" being generally somewhere in the first part of June.

3. Here's one way: Take from the colony 2 frames of brood and bees with the queen, placing them on another stand as a nucleus. Cells will be started in the queenless colony, and in 14 days you can cut them and return the bees, brood, and queen from the nucleus.

Here's another way: Take from the hive all but 2 or 4 of the frames of brood with enough adhering bees to care for the brood you take away. Put in the hive 3 or 4 frames with one or two small starters of foundation in each, the starters being 2 or 3 inches wide and twice as deep. Be sure to leave the queen in the old hive with these empty frames. The brood you take away you will put in another hive, which you will set on top of the old hive, of course with no communication between them. In about one week, more or less, you will find built in one or more of the empty frame comb large enough to fill the frame half full or more, containing eggs and young brood. Take away all these frames that were given and return to its place the brood you took away with adhering bees. Now go to any other strong colony, take away its queen with 2 frames of brood and bees, put them in a hive and set it on another stand. Give to this now queenless colony one of the combs partly filled out, and in 10 days take it away and return the combs with the queen. The cells can now be used to rear queens. You may think the queenless bees will start cells on their old combs. They may, but they will be very few, and you need not use them. Most of the cells will be started on the new and tender comb.

4. With natural swarming here is one way: Strengthen the colony, if need be, by giving sealed brood or young bees from other colonies, so as to have it swarm first. Set the swarm in place of the mother colony, and put the mother colony on the stand of another strong colony, say No. 2, putting No. 2 on a new stand. The field-bees of No. 2 will strengthen the mother colony, and when it sends out a second swarm put the swarm in place of the mother colony, and set the mother colony in the place of another strong colony, say No. 3, putting No. 3 on a new stand. Continue this way as often as a swarm is sent out, and you may have quite a number of new colonies with queens from your best colony, for when a colony prepares to swarm it is likely to have 8, 10 or more queen-cells.

5. You can't have your cake and eat it, too. Of course it weakens the old colony to throw most of the bees into the swarm; but that's just what is wanted, for the swarm being thus strengthened will store more than both would otherwise do. Only if in a locality where the late flow is more important than the early flow, then I would let the old colony remain on the old stand and depend upon its building up for the late flow. I can hardly say I manage natural swarms at all, for I try to prevent them, but sometimes they manage me.

6. About once in 10 days.

7. Yes, more than often enough. But don't for a minute think you can make sure there will be no swarms if you kill the cells every 7 days.

8. I don't know. My yield per colony runs all the way from nothing to 150 pounds or more. That would seem to make the average 75 pounds, but I don't believe I do so well as that.

9. I don't destroy drones, only by destroying the brood or replacing drone-comb with worker-comb.

10. Neither. I take off each super as soon as it is finished, or finished all but a little at the outside or corners.

11. Maybe; maybe not till later. It depends upon weather and strength of colony.

12. I know little about it practically. I think it depends upon having an opposing surface with a part cut out of the form of the letters.

13. She leaves the hive also on her wedding-trip.

14. Like enough by the nucleus plan.

Old Queen-Bees

1. Did you ever have a queen live to be 7 years old?

2. Did you ever know of a queen living to that age—not hearsay, but what you *know?*

3. Don't you think that picture of a frame of brood from a 7-year-old queen, that appeared not long ago—don't you think the story a little fishy? To me the whole story sounds *very* fishy. I have kept bees for 25 years, and only once did I ever know a queen to live into the 4th year.

New Mexico.

Answers.—1. Not that I know of.

2. No.

3. If we confine our beliefs to what comes directly within our own knowledge, rejecting everything that comes under the head of "hearsay," I'm afraid there would be trouble. All I know about New Mexico is from hearsay, but I am hardly prepared to deny its existence. In 25 years' experience you have only once known a queen to live into her 4th year; but since you have had that one exception it is quite possible that you or others may have still greater exceptions. At present writing I have 5 queens born at such dates in the year 1908 that if they live from 5 to 35 days longer they will enter their 4th year. As they are doing fine work laying, and appear vigorous, there is every probability that they will enter their 4th year. Another queen was born about the middle of July, 1907, and will need to live only a few days longer to enter her fifth year. Still another has already entered her 5th year, having been born on or before June 29, 1907. As yet she shows no signs of decrepitude, keeping her hive well filled with brood. Nothing remarkable about this, only it has come under my own personal observation, and I can easily believe that others have had older queens.

REPORTS AND EXPERIENCES

Very Little Surplus Honey

Bees held their own all spring, and we expected a good basswood honey-flow. We had no clover bloom at all, and basswood was loaded with buds and bloom, and opened nicely, though it was too dry and hot the first week, then came a little rain, followed by 3 days of cold wind, which pretty well destroyed the blossoms. Of our 44 colonies, 22 each filled and capped their one super of sections, the comb being of last season; the others did not get theirs capped, though some filled the comb in sections.

July 27th and 28th we had a rain of 2 inches, which may help the fall flowers, of which there are plenty. Bees fly well now, though they do not work in sections.

MARY THEILMANN.

Theilman, Minn., July 30.

Warm and Dry Weather

The weather is warm and dry here, but the grain looks pretty well yet. The basswood is beginning to bloom now—a little earlier than last year. It is all covered with buds and bloom. ALGOT B. BERNSTON.

Bagley, Minn., July 4.

Too Hot and Dry for Bees

Bees have not done very much here this season so far. It has been too hot and dry. They are doing better now, as we have had fine rains lately, and the third crop of alfalfa is blooming freely. DR. G. BOHRER.

Lyons, Kans., July 28.

Severe Drouth in Missouri

Our bees have not done well this year on account of the severe drouth. I think there will not be any fall honey-flow, as everything is so dry. There is no sign of Spanish-needle showing. M. F. OLDFIELD.

Buffalo, Mo., July 17.

Fine White Clover Honey-Flow

We had a fine white clover honey-flow the last half of May. I secured 60 pounds each from 14 colonies, and had 10 swarms—the earliest swarms I have ever had, the first one issuing May 5th, the last one May 20th. They had killed off all the drones by July 10th.

How do some people keep bees without a bee-book or bee-paper? They don't keep them long in this vicinity, as they all die the first hard winter.

If late swarms are not fed soon, they will starve, and almost all the bees in this vicinity are from swarms.

If we have rain we will have some honey from Spanish-needle. We count more on Spanish-needle than on white clover.

I have sold all my honey at 20 cents per pound. I used extracting frames and cut the honey out. I can sell it better in that shape than I can if the honey is in 4¼x4¼ sections. L. M. JOHNSON.

Fortuna, Mo., July 52.

The Season in Maryland

In April and May everything looked rather discouraging to procure that hoped-for thousand pounds of honey in my Mt. Nebo Apiary this year. Nearly one-third of the colonies had died that went into winter quarters last fall. I thought I could hardly afford to subscribe for the American Bee Journal, but I fully realize that Dr. Miller's writings, and his "Forty Years Among the Bees" have, in a few years past, made me more successful than any other bee-keeper in this vicinity; and the American Bee Journal with its most wholesome editorial comments and advice had afforded me untold pleasure and help. So why should I save pennies, and lose dollars?

It is hot here, and the bees are booming. They keep me busy looking after their needs.

Grantsville, Md., July 3. L. J. BEACHY.

Poorest Season in 25 Years

This is about the poorest season for bees in 25 years so far in Wisconsin, at least in this section. There was no clover except a little alsike, as it was all killed out last season, and it is about as dry again now. Basswood looked very full, but the weather was so hot and dry that it did not last very long, but it yielded well while it lasted. I am putting in some buckwheat to help the bees out. I never saw alsike clover dry up or turn brown before, but we had a temperature of 90 to 98 degrees a good part of the time, and no rain, either. The outlook for another season is far from bright, too.

Berlin, Wis., July 20. B. T. DAVENPORT.

Small Honey Crop—Dry Weather

Our white clover honey crop will not average 10 pounds per colony. Dry weather was the cause of it. A. COPPIN.

Wenona, Ill., July 19.

Hot and Poor Honey Season

It is terribly hot here—100 degrees in the shade yesterday; 94 degrees at 10 a.m. We have had a poor honey season so far. There was little clover, and basswood, now open, is dried up with the extreme heat.

G. M. DOOLITTLE.

Borodino, N. Y., July 4.

Bees Doing Nothing

Bees here are doing nothing now. It is 4 weeks to-day since we had any rain, and these 4 weeks have been the hottest ever known here. Hay and oats are very light; gardens are ruined; pastures are dried up; but corn may be saved if rain comes very soon. I have taken surplus honey from but few colonies. The brood-chambers are tolerably well fixed now, but the outlook is that much feeding will have to be done if the bees are wintered. EDWIN BEVINS.

Leon, Iowa, July 15.

A Disappointed Bee-Keeper

I moved my apiary into this region the fall of 1907, as farmers had been raising alsike clover here for seed, and I thought that it would be a good place to locate, but I have found out to my heart's content that this is no place for a honey-producer to locate. The alsike growing is all burnt out by drouth, and no white clover grows here to speak of. The people in this region seem to have a great abomination for people that come from distant parts to locate in the apiary business.

I wish to sound a note of warning to all bee-keepers who are thinking of making a move, to study the new location thoroughly before moving, or you may fall into an abyss where you will meet with great loss, beyond recuperation. If you are located in a fairly good white clover region, with other plants, besides good neighbors and market facilities, there is the place to remain, if you are in good health and happiness.

There is no basswood even in this country. I shall remove to a different place from this in the fall, God permitting.

C. F. BROWN.

Eau Claire Co., Wis., July 7.

Improved Bees Average Better

I notice Mr. Lathrop, in the June American Bee Journal, does not think much of the idea of improved bees. Perhaps he never experienced very much in that line, or may be he has so good a locattion that *any* bee can get a good crop. I do not believe so much difference is noticable in real good seasons, but it seems to me *I* find it so at least, that there is a great difference in poor seasons, and I think most bee-keepers find the majority of seasons poor. For 5 or 6 years past I find my improved stock has given me a good crop when the common bees, such as are found throughout the country, have not done so. I should have been unable to live from the returns of my bees the last 5 seasons had it not been that the majority of the colonies were superior bees. I have some common stock, as almost every year some farmers sell me some colonies, as I always aim to buy everything in my territory that is for sale, and sometimes a year or more passes before I get such bees all requeened, so I always have some for comparison. This season I have about 25 colonies of common stock, and they will not average over one-half as much surplus as my improved stock, side by side, and all managed alike.

Mr. Lathrop's quotation from the Review was misleading, I think. I do not understand the authority he mentions, saying that all depends upon a colony being just at the right stage at the beginning of the flow; or that there is *no* difference in the honey-gathering abilities of different strains of bees. I take it that *all strains* should be just right at the beginning of the flow; *but* may not one strain store *more honey from* then on, nevertheless? *I* find that they do, and so much more, sometimes, that I frequently have a colony that is *not* up to the desired point at the beginning of the flow that outstrips some that were.

We had a large amount of hot and dry weather through June, and basswood was cut short somewhat. E. S. MILES.

Harrison Co., Iowa, July 1.

Weather Cool—Buckwheat Prospect

The weather here is very cool now—in fact, more like October than July. The season has been one of extremes all through, and bids fair to continue so until fall. The prospects are not as good as usual for buckwheat on account of the drouth being broken up so late. J. L. BYER.

Mt. Joy, Ont., July 25.

Hydrocyanic Acid for Killing Wax-Moths

On page 180, Dr. Miller very properly recommends carbon disulfide for killing the larvæ of the wax-moth. As this liquid is very volatile, and the vapor is very heavy, it is a most efficient agent for this purpose. The liquid should be placed in a vessel *above* the combs, which should be contained in a vapor-tight vessel—box or cask. I doubt if the vapor will kill the eggs of insects; carbon disulfide certainly will not kill the eggs of the clothes-moth, although it is death to larvæ and moth.

The *vapor* of sulphur does not seem to injure larvæ or moth, but sulphur dioxide (sulphurous acid) is very deadly. This is produced, under ordinary circumstances, only when the sulphur or its vapor is burned.

Great care must be exercised in using bisulphid of carbon, for the vapor takes fire at about 300 degrees Fahr.—a temperature far below a red heat. In an article which appeared recently in one of our popular journals, it is said to be "explosive." This is not true in the same sense that gunpowder or dynamite is explosive. The vapor must be mixed with a proper proportion of air and then ignited. When no fire is present there is no danger.

The vapor of hydrocyanic acid is probably the most deadly of all. Minute directions for its use are published by the Department of Agriculture. It is not at all dangerous when proper precautions are observed, and I am inclined to believe that it is fatal to the eggs.

Let us stick to the old chemical names when not addressing professional scientists. Everybody knows what carbonic acid is; how many would recognize it as "carbon dioxide?" So with bisulphid of carbon; this is the name on the labels on the bottles, and it is familiar to all, and so of many others. JOHN PHIN.

Patterson, N. J.

Introducing Queens—Dry Weather

Some time since I conceived the idea that the only possible way in which bees can tell their own queen from one introduced is by smell. I do not know if this is a well established fact, though it may be, and my only excuse for mentioning the idea is that I think it more than probable that by making the queen and the hive to be introduced to, all of some one powerful odor, as peppermint, any queen may be introduced successfully and safely.

A confirmation of this idea came to me in to-day's mail. A friend who has kept bees in a small way for many years (he is 72), wrote me recently that he got 14 Banat queens "which were dumped into my hives to fight it out," and he suggested that he had a fondness for "the survival of the fittest." I wrote him that I expected to hear that every one of his Banats were dead, but in the letter before me he modifies his process, explaining that he put a 2-inch super rim on his hives, put a Banat queen in that in the cage, and finding that at the end of the week the queen was not out, released her. He claims not to have lost a queen. Why?

I think the reason is patent and logical. The weather had turned cold, and the bees were dormant, so in the week the queen was confined she had acquired the hive-odor, and as she was young and not laying, she overcame the older and heavier (gravid) queen.

If this ever sees the light of a reading page, I shall experiment as follows: I shall wet the colony to receive the new queen with peppermint water, as I shall the queen to be introduced, then I shall put a bottle holding about one dram into the hive, and have the bottle partly filled with crystals of menthol. A cork with a liberal groove cut into it will allow the odor of peppermint to penetrate the air in the hive. I shall run the queen into the hive, watching to see how she is received, and keep a record as to final results.

As there is but one certain way to intropuce a valuable queen, I hope I have found a second, but actually have not time to experiment.

Just a few days without rain has sent our chances for a crop of honey to the "demnition bow-wows." There was no rain last fall, and but little snow during the winter, and while we had nice rains in the spring, there was no subterranean supply, and when the hot spell came on with hot, dry winds from the southwest, south, and southeast, they carried off the moisture as fast as it fell.

There is an abundance of clover bloom, but it is yielding nothing, and the bees are gathering from sweet clover and flowers. I was looking for 200 pounds to the colony 2 weeks ago, but now I shall be satisfied with 25 pounds. These conditions prevail all over this (Crawford) county, so far as I have heard.

DR. A. F. BONNEY.

Buck Grove, Iowa, June 13.

Moving Bees Short Distances

My attention has been attracted to an article in Gleanings in Bee Culture for June 15 (page 352), with the above heading, in which it is recommended that in moving a colony of bees they be approached in a rough manner, smoked vigorously, and the hive pounded on, then smoked some more, and finally thrown on a wheelbarrow and moved to their destination in as rough a manner as possible, setting them down with a thump and a jar, and then imprisoning them; and it is recommended to try out the plan and report.

Now, as I have been so successful in following the opposite plan, I do not propose to try the new method, as the one I have adopted works well, and is more in line with that kindness due from us to our bees and to every living thing we come in contact with. Furthermore, I am fully convinced that bees can be *educated*, and will appreciate kind treatment, and will respond to it as readily as any other living thing that we meet.

I do not claim originality in my new plan of moving bees, as the discovery was made at my North yard in Oklahoma, in the spring of 1909, in the following manner:

A gentleman living on the opposite side of the city, some 8 blocks from my apiary, wanted to buy 2 colonies of bees. It was then about the close of fruit-bloom, and the alfalfa beginning to bloom. After picking out his colonies, I advised him to let them remain until fall, as many of the bees would return, moving them such a short distance, and he was welcome to come and look after them and get what honey they stored. He would not do this, but said he bought them purposely to *see* them work, and would put them in his door-yard, and would not keep them closed in for a day or two, as I had recommended, but would give them their liberty the next morning, and treat them so much better than I had done that they would not care to leave him!

Late that evening he came and got his bees, hauling them on a hand cart on a smooth pavement, and handled them with the greatest of care. I told him that I would place empty hives with some comb on the stands of the hives he had moved, to see how many of his bees I would trap the next day; and to my surprise, not a bee returned.

Toward evening I strolled over to see how he had treated his bees. I found him looking into one of the supers he had placed on the hives, with intense interest I asked him what he was doing to the bees. He replied that he was talking to them, and asking them how they liked their new home, as compared with the old one that I had furnished them. A little examination convinced me that he had kept every working bee engaged, carrying sugar syrup from the super to the hive below, and by keeping up this feeding they had entirely forgotten their old location. Since then I have tested this plan and find it to be a success in moving bees any distance, at any season of the year, from 60 feet to 600 miles, as my South yard on the Gulf Coast is just that distance due south of my Oklahoma yard; and while I have found this distance a little inconvenient and expensive, yet it is not without its advantages in the learning of many things about the shipping of bees.

I will again insist that the kind treatment of bees in moving short distances works well, any place, South or North.

Last February, when the hives were full of brood and bees, I had occasion to move 57 colonies from one side of the city of Victoria to the opposite side—a distance of less than half a mile, and no bees returned. About 200 pounds of sugar were consumed in teaching them to like their new location better than the old one; but as it was the stimulant they needed at that time, it was no loss, but a real gain.

Victoria, Tex. GEO. H. COULSON.

Weather Too Hot and Dry

It has been too hot and dry. We have had no swarming, but the bees are storing some honey from the sweet clover, which is more than usually abundant here this summer. It is surely discouraging, but with the "old reliable" American Bee Journal, and the good woman (such as Mrs. Dodd is) to take care of the bees and honey, perhaps some time our yard may have "more bees," and we can send in a better report.

CLARENCE DODD.

Popejoy, Iowa, July 18.

Heat Insulation

In the course of our business we have provided ourselves with a book entitled, "The Transmission of Heat Through Cold Storage Insulation," by Paulding (New York, D. Van Nostrand Co.) This book should be in the hands of every bee-keeper, as it furnishes formulæ by means of which the conductivity of any combination of substances can be calculated.

Powdered charcoal, chopped straw, and mill shavings, each conduct from .56 to .65 thermal units per hour per square foot one inch thick for each degree of difference of temperature. The mill shavings are very commonly used to protect bees. Possibly they are often used by people who could easily get a better heat insulator.

Thus, sawdust, granulated cork, and small sifted natural coal, conduct only .48 to .55 units, and are quite easily accessible; and large grocers or foreign fruit dealers being quite willing to furnish the cork free.

Magnesia, and mineral wool containing 18 percent or more of magnesia, conduct only from .38 and .45 units, only about two-thirds as much being necessary as of shavings; but the common mineral wool containing barely 3 percent magnesia, is utterly unreliable.

However, the very best non-conductors are paper, leather, hair, felt, fur, feathers, old cloth, and raw cotton, silk and wool. These substances conduct from .27 to .35 units, only one-half as much in thickness being required as of the shavings. Here we have a list of material that are quite common with all. They are just as valuable for other purposes after being used in bee-cushions for years. Slumgum being a mixture of silk and larval skins, is an excellent non-conductor. Loose packing insulates just as well as hard packed material since air, if fastened quite securely in one place, is almost the best insulator of all. If air is allowed to move about it will carry out the heat by its own motion. Hence we see why porous materials are so much in vogue.

All refrigeration engineers agree that moisture in the insulating material is most inimical to success. This is a good argument for Dr. Bonney's "artificial propolis" (American Bee Journal March, 1911, page 82), and *absolutely* sealed covers. The conductivity of water is 4.41.

If "absorbents" are to be used, one would probably better not make radical changes on many hives in one year, owing to the fact that we do not now know the exact absorbing power of all the substances mentioned. We have, however, used rags as an "absorbent" with success.

Now coming to the outside of the hive we wish a non-radiating one, which will also act as a non-absorbing surface in summer. The value of zinc on a galvanized material for this purpose is very great. Such a surface radiates .040 units only per hour, per square foot, per one degree of difference of temperature, while oil paint radiates .759, paper .772, wood .737, lead or leaded iron .133, water 1.087, and oil 1.482. A glance at this last item shows the folly of covering a hive with *greased* paper.

We recommend to bee-keepers a study of the general subject of heat insulation.

Battle Creek, Mich. MILK-MEN.

A Wandering Bee-Man

I am looking for a new home, and have looked over quite a scope of country. I started from northern Montana last December. It got 46 degrees below zero. Is it all snow up there? Yes, a foot or two. I told my neighbors if they ever see my tracks in snow after Jan. 1, 1911, my heels would point towards Canada.

Yes, I am looking for a bee-ranch, but will have to buy land, then have them shipped, I am afraid. A queen sent to Simms, Mont., which I ordered, did fine. I had a time introducing her. The colony was queenless 6 months—from fall to May. There were more drones than workers, and laying workers had set up shop to stay. I strained out the drones, put a new hive on the old stand, then after leaving the new queen in the hive 24 hours, put the caged queen in with what few old workers came back to this new hive. Almost all the laying workers stayed in the old hive. It was pitiful to see those few old workers (only 200 or so) that had lived over the winter (and 45 degrees below zero) up to June. I think before we got the queen their wings were all frayed out, faded and discouraged, they seemed to know their days were ended; still they worked. The boy did not know what ailed them. He killed the queen in the fall; I think "robbing them," as he called it. That colony of bees is the first to be taken to Cascade Co., Mont. That would be an ideal spot to rear fine queens, as there are no wild bees, and never will be, as there are no hollow trees. Alfalfa and sweet clover do fine. I secured seed of yellow-blossom sweet clover, also yellow-blossom alfalfa. I will sow this seed in my new location.

If I ever stop long enough to call for my mail, I will send for the American Bee Journal again.

I have found honey on only one table in the hundreds of towns I stopped in. This was in Van Buren, Ark. I said, "Hello, somebody has found a bee-tree, sure enough." "No," the hotel man said, "that's my own honey. I 'robbed' a hive the other day." I knew that it was wild bees' or black bees' honey. No, not by the taste, by the looks, I will say. How could I tell? It's easy. I found a dead worker on the big platter on the table. It was no more an Italian than I am a bee-man! But, say, I don't fancy spoiling a good thing in this way!

L. W. BENSON.

Johnson Co., Ark., May 28.

The Next Missouri Convention

The secretary of our State Bee-Keepers' Association is endeavoring to make great preparations for a rousing meeting next fall; the time is not set yet, but it may be some time about the last of September. There is to be a fair held at Kansas City, and the managers have made liberal offers to the Association in giving them free space to make a display and to advertise the meeting, and other favors. The bee-keepers of Clay county have taken up the work, and are aiming to make great preparations for the meeting, and our secretary is at work on the program. We are endeavoring to have the meeting interesting enough to draw a good crowd of bee-keepers from different parts, not only of our own State, but from other States, especially from Kansas. Due announcement will be made, and we hope that many of the bee-keepers of many places will prepare to attend our meeting, as there are to be, besides our meeting, great inducements to draw people to Kansas City at that time, and we wish to make our meeting a great success.

We are to have discussions of importance to bee-keepers in general, and to the bee-keepers of our own State in particular. How best to manage and eradicate foul brood in our State is one question in particular. We have a very efficient inspector, but there has been more for him to do than he has been able to manage in inspection work, and we are informed that foul brood is now spread to an alarming extent in our State, as we have reason to think it exists in about 15 counties, and is spreading in places, as the inspector can not get around fast enough to attend to all the work needed.

On account of not knowing the work the inspector is required to do, there has been some criticism of his work, as it seems is always the case with most public men. One wrote me that he thought the inspector should be able to give more accurate figures as to the resources of honey-production in our State, and that his figures should be reliable. Gathering statistics is not one of his duties, nor is he employed by the State to do that, although he informs himself as to that as best he can under the circumstances. The labor bureau of our State has attempted to gather the statistics on bee-keeping, as they do on all other industries of our State, but the bee-industry is very far from being complete, but they gather only the figures on shipments of apiary products from the railroads and express offices of the State, and that does not represent anywhere near what the resources are of the apiaries of the State. One county near St. Louis is given credit for some 30,000 pounds of honey in one season, while a county next to it is given credit for only about 600 pounds. The first county mentioned ships nearly all it produces to St. Louis, while the other county, that I am sure produces may be nearly as much, markets its honey directs, and so does not ship it, or but very little, so is not properly represented. The same condition exists in our own county, and one lying next to it, and so on, more or less, in all the counties. I would like very much to devise some tangible and practical way to gather the statistics in a more reliable way. I have no censure to offer for the work done, as I have no doubt it is done the best it can be under the circumstances.

I give this, and other hints, so as to prepare the bee-keeping public for what may be expected at our next meeting; and there are other questions of importance that are to be brought up at the meeting. We hope to have a number of distinguished bee-keepers present. We are sure that Missouri is one of the foremost States in bee-keeping, and we urge the bee-keepers of our State, as well as elsewhere, to attend our meeting, as all will be most welcome.

One person has been writing me for information, and seems to think, perhaps, that I am on a salary as president of our State Association. While I am pleased to answer all reasonable questions, I have to pay my own expenses and furnish stamps for correspondence, and I have considerable of this to do in a year. I am not aiming to make any complaint, but wish all to be considerate, and not expect too much from me, as I am kept very busy in my business, but try to attend to all correspondence.

Mexico, Mo. J. W. ROUSE.

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By Thomas G. Newman

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George W. York & Co.,
146 W. Superior St., Chicago, Ill.

Please mention Am. Bee Journal when writing.

National Program at Minneapolis

There will undoubtedly be reception committees who will meet all incoming trains the forenoon of Aug. 30th. Hotel information can be secured from them. Those arriving in the afternoon will go direct to the convention room.

Place of Meeting

G. A. R. Hall, Court House, Minneapolis, Minn.

Time

August 30 and 31, 1911.

Sessions

1st. Foul Brood—1:30 p.m., Aug. 30.
2d. Honey-Selling—7 p.m., Aug. 30.
3d. Business—8:30 a.m., Aug. 31.
4th. Miscellaneous—1:30 p.m., Aug. 31.
5th. Co-operation—7 p.m., Aug. 31.
6th. Free trolley ride around the city—courtesy of Minneapolis Commercial Club—9 a.m., Sept. 1.

Hotels

Radisson and Dyckman, $1.50 per day, and upward.

West, Nicollet, Vendome, Rogers, and Camfield, $1.00 per day, and upward.

Majestic, Golden West, Beaufort, Pauly, and Russell, 75 cents per day, and upward.

Program in Detail

FOUL BROOD SESSION begins at 1:30 p.m., Aug. 30th, and is subdivided into the following topics:

1st. The Present Status of the Campaign Against Foul Brood.
2d. Advantage of Apiary Inspection Under the Supervision of the State Entomologist.
3d. How Can a National Campaign be Conducted Against Foul Brood?
4th. How to Get State Foul Brood Laws.
5th. The Agricultural College and Inspection.
6. Curing Foul Brood—Inspectors' Methods—What are They?
7th. Appointment of Committees.
8th. Question-Box.

First Evening Session

HONEY SELLING SESSION begins at 7 p.m., Aug. 30th, and is subdivided into the following topics:

1st. Is a National Advertising Campaign for Selling Honey Practical?
2d. How Can a National Campaign be Conducted for Developing the Wholesale Honey Markets?
3d. A Mail Order Honey-Trade—How Conducted.
4th. Developing the Home Markets.
5th. What Size Package Should be Used for the Retail Trade?
6th. Question-Box.

Second Morning Session

BUSINESS SESSION begins at 8:30 a.m., Aug. 30th, and is subdivided into the following topics:

1st. President's Address.
2d. General Manager's Report.
3d. Secretary's Report.
4th. Shall the National be One Separate Association or an Aggregation of Smaller Ones?
5th. The New Constitution and By-Laws.
6th. Publication of Annual Convention Report—Is Any Change Desirable?
7th. National Association Bulletins—What They Have Accomplished?
8th. Report of Committee on Nominations.

Second Afternoon Session

MISCELLANEOUS SESSION begins at 1:30 p.m., Aug. 31st, and is subdivided into the following topics:

1st. Queen-Mating Stations Conducted by the Government—Would They be Practical?
2d. Uncapping Melters—Are They Being Used Extensively?
3d. Steam-Heated Uncapping-Knives—Are They Practical?
4th. Uncapping Machines—Are They as Yet a Success?
5th. Adulteration of Honey—To What Extent is it Being Practiced? What Can be Done to Stop It?
6th. Uniform Shipping-Cases—If Adopted, What Size Should They Be? Why?
7th. Question-Box?

Second Evening Session

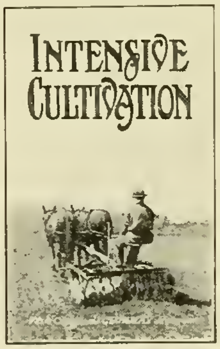
CO-OPERATION SESSION begins at 7 p.m., Aug. 31st, and is subdivided into the following topics;

1st. What the Colorado Honey-Producers' Association is Doing.
2d. Co-operative Efforts in California.
3d. The Michigan Plan, or What the Michigan Association is Doing.
4th. What Can the National Do Along Co-operative Lines?
5th. Obstacles to be Met With in Co-operative Efforts, and How to Overcome Them?
6th. Question-Box.

You will notice that in the above program the names of those to take part are not given. There is a two-fold object in this. First, we want the persons who are to lead in the handling of the topics to be present. Second, we want every member to come prepared to take part in the discussions, as we want this to be a convention of *live* members, and not have the majority sit still while a *few* do the talking. Remember, *you* may be called on to take part.

In conclusion, let me say that there will be some competent person there to handle each one of the above subjects. Prominent bee-keepers from all over the country will be there, and these topics will be assigned to some of them before the sessions start. But it is expected that every member will plan to take part. E. B. TYRRELL, *Sec.*

Detroit, Mich.



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[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

Italian Queens, 75c; tested, $1.00; breeders, $5.00. W. T. Hellyer, St. Louis, Mo.

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8Atf W. B. Burlingame, Exeter, N. H.

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For Sale.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey.
5Atf Ogden Bee & Honey Co., Ogden Utah.

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12Atf T. F. Bingham, Alma, Mich.

For Sale—About one hundred Black and Hybrid Queens; all young and prolific. Six for $2.50; one doz., $4.50. 7A2t.
D. E. Brothers, Jacksonville, Ark.

For Sale—Empty second-hand 60-lb. cans, as good as new; two cans to a case, at 25c per case. C. H. W. Weber & Co.,
2146 Central Ave., Cincinnati, Ohio.

Good Improved 20-A. Apiary, poultry, fruit or general farming. Main clover and Spanish-needle belt; half mile of city of 8000; with or without bees. George Bolze.
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For Sale—30 colonies of bees in 10-frame L. hives for $3.50 per colony. Hives have 9 frames and dummy. Some extras to go with hives. Write for particulars. 8A1t
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For Sale—5000 lbs. Yellow Sweet Clover Seed, new crop biennial; 4 lbs. hulled, by mail, prepaid, $1 10; 50 to 100 lbs., 15 cts. per lb.; unhulled, 3 cts. per pound less. Alfalfa Seed, $16.00 per 100 pounds. 7Atf
R. L. Snodgrass, Rt. 4, Augusta, Kan.

For Sale.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts., 6 for $1 20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J Littlefield, Little Rock, Ark

Tennessee-Bred Queens

All from Extra-Select Mothers, Davis' Best, and the Best Queens Money Can Buy

39 Years' Experience in Queen-Rearing.
Breed Three-Band Italian Queens Only.

	July 1 to Nov. 1			Nov. 1 to July 1		
	1	6	12	1	6	12
Untested	$ .75	$4.00	$7.50	$1.00	$ 5.00	$ 9.00
Select Untested	1.00	5.00	9.00	1.25	6.50	12.00
Tested	1.50	8.00	15.00	1.75	0.00	17.00
Select Tested	2.00	10.00	18.00	2.50	13.50	25.00

The Very Best Breeder	$10.00
Select Breeder - -	5.00
Nuclei—no queen—1-fr.	2.00
" " " 2-fr.	3.00
" " " 3-fr.	4.00
Colony " " 8-fr.	8.00

Select the Queen wanted and add her price to the price of the Nucleus or Full Colony.

For Queens to be exported, add 20 percent to above prices, except to Canada, Cuba or Mexico.

All Contracts have now been filled, and I am at last ready to serve you promptly.

JOHN M. DAVIS,

Dealer in, Importer and Breeder of

Italian Queen-Bees

Depot, Telegraph & Express Offices—Ewell Sta. on L. & N.Ry. **SPRING HILL, TENN.**

Cheap Queens—I have a lot of black and hybrid queens that I bought from the farmers, and will mail them, as long as they last, at 25c each. John W. Cash, Bogart, Ga.

Wanted We wish to buy white extracted and fancy comb honey in small or car lots. We pay cash on arrival. Send a small sample of extracted, state price, and we will advise by return mail.
E. R. Pahl & Company,
Milwaukee, Wis.
Established in 1894. 8A2t

Beeswax Wanted.—We are paying 28 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

National Letter-Heads.—N. E. France, Platteville, Wis., General Manager of the National Bee-Keepers' Association, takes orders from members for printed letter-heads. The paper is white, and then printed with black ink, which makes them very neat and business like. Every member of the National ought to use these letter-heads. They show a list of the Officers and Board of Directors, and, of course, will have added the name and address of the member ordering any of them, at these **prepaid** prices, which are "cash with order:" 250 sheets, $1.30; 500 sheets, $2.00; 1000 sheets, $3.75. All orders are to be sent to Mr. France.

When writing to our Advertisers please mention the Bee Journal.

Poultry

For Sale—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

Honey to Sell or Wanted

For Sale—White clover comb and extracted honey. Henry Hettel, Marine, Ill.

Wanted — Comb and extracted honey. Send a sample, with price f. o b. at your station. Arthur J. Schultz, Ripon, Wis.

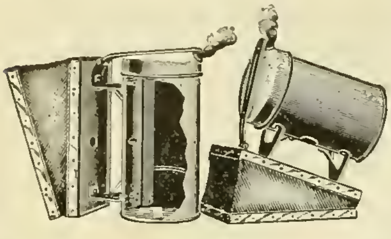
For Sale—6000 lbs. well-ripened basswood honey in 60-lb. cans at 9c per lb.; in barrels, 8c. Sample free. 8A2t
Jos. B. Hesseling, Rt. 3, Potosi, Wis.

Wanted — Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

Will Pay for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin

For Sale. — Absolutely pure California sage extracted honey; several cars white and light amber, in 60-lb. tins, two tins to a case. Write us for samples and prices.
Rather Bros., Managers,
Hemet Valley Bee-Keepers' Association,
7Atf Hemet, Cal

Gold Medals St. Louis Exposition, 1904.
Jamestown Centennial, 1907.



Danzenbaker % Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate,** forcing air **both ways,** makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest net capacity** of all smokers, selling at one dollar ($1.00). We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail	$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail	1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail	1.00
With American Bee Journal one year, about 400 pages, by mail	1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,
68-70 Woodside Lane, NORFOLK, VA.

Please mention Am. Bee Journal when writing.

THE FAMOUS Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.;	per dozen,	$8.00
Tested— each, $1.25;	per dozen,	12.00

If you wish to swell your means, Just try my Famous Texas Queens

GRANT ANDERSON,
2Atf San Benito, Texas.

Please mention Am. Bee Journal when writing

"**Scientific Queen-Rearing**"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, $1.00; or with the American Bee Journal, one year—both for $1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for $1.25. Send to the American Bee Journal,

Queens Ready Now!

Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3 Band Untested Queens,	1,	$ 0.75;	6,	$ 4.20
3 " Tested "	1,	1.00;	6,	5.70
3 " Breeder "	1,	5.00;	6,	25.00
5 " Untested "	1,	1.00;	6,	5.70
5 " Tested "	1,	1.50;	6,	8.70
5 " Breeder "	1	10.00;	6,	50.00

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

W. J. LITTLEFIELD,
R. F. D. 3 LITTLE ROCK, ARK.

Please mention Am. Bee Journal when writing.

This MAN'S Representative

Will consider it a privilege if you will let him make you an estimate on a bill of goods. Send him a list of what you want, and he will quote prices with discounts.

Goods can be shipped from Fremont, Mich. CHICAGO, ILL., or Medina, Ohio—whichever place will cost the less freight; or you can have he estimate to be delivered at your station, freight prepaid.

He has the largest and most complete stock in his 25 years as a supply-dealer, and can ship promptly

All Root's Goods at their Prices, with Season's Discount.

BEES, QUEENS, and Three-Frame Nuclei a specialty; Hilton's Superior Strain. (See testimonials.)

BEESWAX wanted for Cash or Exchange

Send for 50-page Catalog to— 6A3

George E. Hilton, Fremont, Mich.

Please mention Am. Bee Journal when writing.

Superior Guaranteed Italian Queens

After testing different strains of bees for 15 years, I think I know something about quality in Queens. And I am so sure that the daughters of my present breeding queen will please the most particular bee-keeper that I am guaranteeing satisfaction. This means that if any queen bought this fall fails to give entire satisfaction next season I will replace her free. And this is not all: I guarantee safe introduction to normal colonies or nuclei just made queenless, or to bees which are building queen-cells at the time my Queens are received. No transaction is considered complete until my customer is satisfied. Select Queens, $1.00; 6 for $5.00; and $9.00 per dozen.

E. W. Brown, Willow Springs, Ill.

Please mention Am. Bee Journal when writing

QUEENS

From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt.1, Wapato, Wash.

Marshfield Sections

Best Dovetail Hives
with Colorado Covers

Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.
kept in stock. **Wholesale and Retail.**
Prices sent for asking.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

SEND FOR FREE

ADEL Bee and Supply Catalog

You will save money if you buy direct from my factory. I make the finest polished Sections on earth. I want to prove it to you. Send me your order for Sections, or anything in Bee-Supplies.

45,000 Brood-Frames at $1.50 per 100, as long as they last—size 9⅛ inches deep, top-bars, 19 1-16 long, V-shape, or 2-groove and wedge; or Simplicity Frames—all loose-hanging frames.

65,000 Section-Holders at $1.00 per 100, as long as they last. They are nicely dovetailed, and are for 4¼x4¼x1½ and 4x5x1⅜ sections.

Car-load Section orders a specialty.

CHAS. MONDENG,
160 Newton Ave., N.,
3A6t **MINNEAPOLIS, MINN.**

Queens! Queens!

Ready April 15th. Mail your orders NOW to insure your Queens when you need them.

Tested, $1.25; Untested, $1.00.

We breed Carniolans, 3-Band Italians, Caucasians, and Goldens.

Address, 2A7t

JOHN W. PHARR,
Berclair, Goliad Co., Tex.

ITALIAN QUEENS

Untested, 60 cents; 6 Queens, $3.00. Tested Queens, clipt, 75 cts.; 6 Queens, $4.00.

JOHN LEININGER,
8Atf FT. JENNINGS, OHIO.

Please mention Am. Bee Journal when writing.

MARSHFIELD GOODS

BEE-KEEPERS :—

We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

Sweet Clover Seed !

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 75c; 10 pounds for $1.40; 25 pounds for $3.25; 50 pounds for $6.00; or 100 pounds for $11.50.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Italian Queens by Return Mail.

Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.25; Breeders, $3.00. Others, 25c extra. Two 5-gallon cans, 59c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Complete Alexander Hive, 9-F., 2-story, double cover, $2.00; Alex. Veil, by mail, 45c. Gleanings or Bee-Keepers' Review, to new subscribers, 75c a year. Langstroth by mail $1.00 Italian Bees, $10.00 a colony, 8-F. with super. Supplies and Honey. Send for Catalog. Free School—Saturday afternoon classes.

Walter C. Morris, **74 Cortlandt St., NEW YORK, N. Y.**
Apiary—Yonkers, N. Y.

Please mention Am. Bee Journal when writing.

FOR SALE

Untested Golden Italian Queens 50 cts. each
6A3 **J. F. Michael, Rt. 1, Winchester, Ind.**

Please mention Am. Bee Journal when writing.

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases

In the spring of 1909, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year) he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

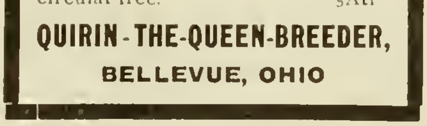
Prices after July 1	1	6	12
Select queens	$ 75	$ 4 00	$ 7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	....
Golden five-band breeders	5 00	....	....
Two-comb nuclei, no queen	2 25	12 00	22 00
Three-comb nuc., no queen	3 25	18 00	32 00
Full colonies on 8 frames	5 00	25 00	....

Queens Now Go by Return Mail

Add price of whatever grade of queen is wanted with nuclei and colonies. No order too large, none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5Atf

QUIRIN-THE-QUEEN-BREEDER,
BELLEVUE, OHIO

Please mention Am. Bee Journal when writing.



This fine 90c Honey-Spoon and the American Bee Journal for one year—both for only $1.75. Send all orders to to George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

QUEENS of MOORE'S STRAIN of ITALIANS

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

My Queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

I am Now Filling Orders By Return Mail

and shall probably be able to do so until the close of the season.

PRICES:—Untested Queens, $1.00 each; six, $5.00; doz., $9.00. Select Untested, $1.25 each; six, $6.00; doz., $11.00. Safe arrival and satisfaction guaranteed. Descriptive Circular Free. Address, 6Atf

J. P. Moore, Queen-Breeder,
Rt. 1., Morgan, Ky.

Please mention Am. Bee Journal when writing.

Italian BEES, QUEENS and NUCLEI

Choice Home-Bred and Imported Stock. All my Queens reared in Full Colonies.

Prices for July to Nov.

One Untes. Queen...	$0.75
" Tested " ..	1.10
" Select Tes. " ..	1.30
" Breeder Queen..	1.85
" Comb Nucleus—no queen........	.80

Safe arrival guaranteed. For prices on larger quantities, and description of each grade of Queens, send for for free Catalog and Sample Foundation.

J. L. STRONG,
204 E. Logan St., - CLARINDA, IOWA

Please mention Am. Bee Journal when writing.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.
Cor. Nolan & Cherry Sts.,
4Atf **San Antonio, Texas.**

Please mention Am. Bee Journal when writing.

MOTT'S
Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, $1.00 each; $9.00 per doz. Natural Golden, from Imported Italian Stock, $1.10 each; $10 per doz. Reduced rates July 1st.

Nuclei and Bees by Pound.

List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for $1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

"If goods are wanted quick, send to Pouder"
(Established 1880)

BEE-SUPPLIES

Standard hives with latest improvement; Danzenbaker Hives, Sections, Comb Foundation, Extractors, Smokers—in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods, and my shipping facilities, can not be excelled.

Paper Honey-Bottles

for Extracted Honey. Made of heavy paper and paraffin coated, with tight seal. Every honey-producer will be interested. A descriptive circular free.

Finest **White Clover Honey** on hand at all times.
I buy **Beeswax.** Catalog of supplies free.

Watter S. Pouder, Indianapolis, Ind. 859 Massachusetts Ave.

Poultry Profits Doubled
I bring only 15¢ per lb.
I bring 30¢ per lb.
Capon 8 lbs.
Rooster 4½ lbs

CAPONS bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

PILLING CAPONIZING SETS

Sent postpaid, $2.50 per set with "Easy-to-use" instructions. We also make *Poultry Marker*, 25c. *Gape Worm Extractor*, 25c *French Killing Knife*, 50c. Booklet, "Guide for Caponizing," FREE.

G. P. PILLING & SON CO., 23d & Arch Sts., Philadelphia, Pa.

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net $200 to $1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.
4Atf PROVIDENCE, R. I.

The Swarthmore Apiaries

are now shipping their well-known

PEDIGREED GOLDEN QUEENS

The Swarthmore Apiaries,
6A4 **Swarthmore, Pennsylvania.**

Root Section Honey-Boxes

Concerning the importance of buying the best, and our ability to furnish sections of a superior quality to bee-keepers everywhere.

Our Section Making Department we believe to be the best equipped in the world. We claim superiority of workmanship in several respects, especially in smoothness of the dovetailing and the ends of the sections. They are polished on both sides in double-surface sanding machines, and are therefore uniform in thickness. Too much importance can not be attached to putting up comb honey in sections of uniform quality, and experienced honey-producers agree that **ROOT SECTIONS** of either A or B grades are a most essential investment.

Price-List of Sections

Root Sections come in several standard styles and sizes—with or without bee-way as follows:

4¼x1¼ BEEWAY SECTIONS.
2 inch, 1 15-16, 1⅞, 1¾ or 7-to-foot wide.

We send 1⅞ style 2 beeway when your order does not specify style or width wanted.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	5 50	5 00

PLAIN, OR NO-BEEWAY SECTIONS.
4¼x4¼x1½, 1⅝, or 1⅜; 4x5x1⅜ or 1½; or 3⅝x5x1½.

We send 4¼x1½ plain, or what will fit other items in your order, if you do not specify.

Quan.	Grade A	Grade B
100	$ 80	$ 70
250	1 60	1 40
500	2 75	2 50
1000	25	4 75

One hundred sections weigh about 7 lbs.

Better Order a supply of **Root's Weed Process Foundation** with your sections. 1910 sales on this very superior product totaled nearly 200,000 lbs. Samples with full information and prices may be had upon request.

Remember—We carry complete stocks at this branch and guarantee quick delivery on sections in lots of 100 to 1,000,000, and on foundation and other supplies in any quantity. You ought to know the complete **ROOT LINE** for every appliance for successful bee-keeping. Get the new catalog—brimful of the most modern supplies priced at rock bottom figures for goods of the quality we have manufactured for more than 40 years.

THE A. I. ROOT CO., 213 Institute Place, CHICAGO, ILL.

R. W. BOYDEN, Mgr. (JEFFREY BUILDING) Telephone 1484 North.

QUEENS

Bees by the Pound and Full Colonies

Hardy Golden and Three-banded Italians. Hustlers for honey, and are gentle. No disease.
Untested queens, $1.00 each, $5.00 for six; tested, $1.50 each, $8.00 for six; select tested, $2.00. One-frame nucleus, $2.00; two-frame, $3.00; three-frame, $4.25; ½ lb. bees, $1.75 (add price of queen wanted ; full colonies, $7.00.

VIRGIL SIRES,
516 North 8th St.,
NORTH YAKIMA, WASH.

Please mention Am. Bee Journal when writing.

Bee-Supplies

We are Western Agents for—— 1Atf

"Falconer"

—— Write for Catalog

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Mexico as a Bee-Country

B. A. Hadsell, of Buckeye, Arizona—one of the largest bee-keepers in the world—has made six trips to Mexico, investigating that country as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated 32-page booklet, describing the tropics of Mexico as a Bee-Man's Paradise, which is also superior as a farming, stock-raising and fruit country. Where mercury ranges between 55 and 98 Frost and sun-stroke is unknown. Also a great health resort. He will mail this book by addressing, 7A12t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

Missouri-Bred Queens!

My strain of bees is the result of many years' breeding and selection. I believe they are equal to any, and surpassed by none. They are long-lived, winter well, breed early, and are unexcelled honey-getters. The workers are long-bodied, good-sized bees, uniformly marked with bands of orange yellow. They are good comb-builders, gentle and easy to handle, and yet protect their homes from robbers. You will make no mistake in introducing these queens into your apiary. I guarantee safe delivery at your post-office, and make a specialty of long and difficult shipments. I endeavor to keep a large supply of queens on hand. Prices as follows:

Untested—1, 60c; 6, $3.25; 12, $6.00. Select Untested—1, 75c; 6, $4.25; 12, $8.00. Tested—1, $1.25; 6, $5.50; 12, $12.00. Select Tested—1, $1.50; 6, $8.00; 12, $15.00. Two-comb Nuclei with laying queens, $3.00 each; 3-comb Nuclei with laying queens, $3.50 each. Discounts on large orders. 7A4t

L. E. ALTWEIN, St. Joseph, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

200 to 300 per month. Virgin, 75c; Untested, $1.00; Tested, $1.25. Select Tested, $2.00; and Breeders, $3.00. Nuclei, Full Colonies, Bees by the Pound. Have letter from State certifying my bees are free from foul brood.

FRANK M. KEITH, 4Atf
83½ Florence St., **Worcester, Mass.**

Please mention Am. Bee Journal when writing.

Comb Foundation

BEE-KEEPERS' SUPPLIES

It is made on new improved machines, and the Bees take to it more readily than any other Comb Foundation on the market.

Dittmer makes a Specialty of

Working Your Wax into Comb Foundation for You.

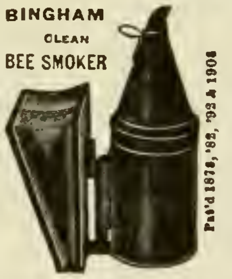
Our Wax Circular and Bee-Supply Price-List Free upon application.

Write us your wants—it is no trouble to us to answer letters.

Gus Dittmer Company, - Augusta, Wisconsin.

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER



Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommand above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

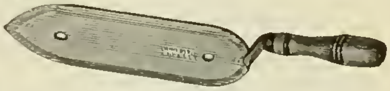
All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	Inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.



Patented, May 20, 1879. **BEST ON EARTH.**

MILLER'S STRAIN

Red Clover Italian Queens

Bred from my superior breeder for business; gentle; no better hustlers; bees just roll honey in; three-banded; northern bred; hardy and vigorous; winter well; not inclined to swarm; bred from best leather-colored, long-tongued, red-clover strains. Untested, $1.00; six, $5.00; dozen, $9.00. Select untested, $1.25; six, $6.00; dozen, $11.00. Circular free. Satisfaction guaranteed. Isaac F. Miller, of Reynoldsville, Pa., a queen-specialist, is my apiarist and manager, who has been before you quite a number of years.

J. S. Miller, Rt. 2, Brookville, Pa.

I Breed Golden Queens

By the best known method, selected of the Best honey-gatherers, and for Beauty and Size of bees, with the care that the best of apiary-men can give, which makes a fine Queen in quality.

Price, Untested, $1.00 each.

I guarantee satisfaction or your money returned, and safe arrival. 6Atf

M. Bates, Rt. 4, Greenville, Ala.

Famous ITALIAN Queens

From the Sunny South

Three-Bands and Goldens bred in their purity.

Hundreds of fine Queens ready March the First. Untested, 75 cts. each; six, $4.20; one dozen, $7.20. Tested Queens, $1,25 each; six, $7.00; one dozen, $12.00.

All orders filled promptly. Address all orders to—

D. E. BROTHERS,
2A9t **JACKSONVILLE. ARK.**

Queens! Queens!

Our Famous Long-Tongued Red Clover Italian Queens ready to mail, **by return mail.**

We cull our Queens. All are fine layers. Strictly no brood-disease.

Untested, 60c each; $7.00 per doz. Tested, $1.00; Select Tested, $1.25.

Our golden Yard 3¼ miles from our Red Clover Yard. Price of Goldens same as Red Clovers.

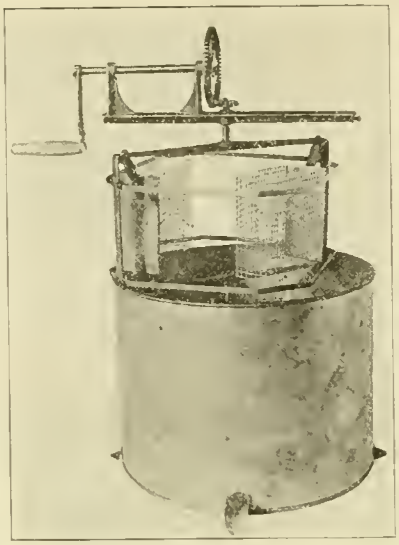
H. B. Murray, Liberty, N. C.

Section-Honey Extractor

Five or 6 years ago I had some 50 or 60 supers of unfinished sections on hand in the fall. I tried to extract them in a frame in a regular extractor, but the sections became more or less mussed up, so I constructed a little extractor with baskets, and to my surprise I was able to clean the sections of honey and use them the next season. Besides, I had extracted about 10 to 12 gallons of honey every night after supper, with my little boy helping me. It convinced me that a device of this kind would be profitable and useful for all comb-honey bee-keepers who might want some extracted honey, besides cleaning up unfinished sections. I now have gotten up a few of these honey-extractors with the reversible baskets, which work even neater than the first one, but it costs a little more. It can be used for all standard sizes of sections, from 4¼x4¼ to 4x5 or 3⅝x5 inches. The picture herewith shows the extractor Can, the section baskets, and also the gearing, the latter being lifted out of the can for the purpose of showing in the picture. It is all made of metal, very strong and durable.

I can furnish this extractor at the fellowing prices: For the reversible style, $4.50; the non-reversible, at $3.00. These prices are for the extractor boxed, and f. o. b. Chicago. As the weight is only about 10 lbs., it would better be shipped by express. Address all orders to,

A. H. Opfer, 117 N. Jefferson St., Chicago, Ill.



A Few Dollars Invested on Easy Terms in a

Twin Falls, Idaho, Orchard

will insure

An Income For Life

sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

A Source of REVENUE

Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

By calling at our office, or writing us, you can obtain full information.

Twin Falls Co-operative Orchard Co.
881 Stock Exchange Bldg., Chicago, Ill.

Protection Veil

Postpaid, all cotton, 50c; silk face, 60c; all silk, 90c; with B or ballast cord, 10c per veil extra. Flexible-rim bee-hat, 30c; Oil duck gloves, long sleeves, 35c.

The heavy ballast cord (B) is a new feature to keep the veil from blowing in on the face. The cord A runs around the lower edge of veil, holding it down snugly on shoulders away from the neck, making a tight fit so bees do not get under. Cord C is a short one with loops in ends with cord A running through them, making it adjustable.

MIDDLEBURRY, VT., May 26, 1911.

A. G. WOODMAN Co., Grand Rapids, Mich.

Veils received, and we think the ballast cord a great improvement in your veil, which was already the best to be had.

J. E. CRANE & SON.

A. G. WOODMAN CO., Grand Rapids, Mich.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

Wanted WHITE HONEY

Both COMB and EXTRACTED

Write us before disposing of your Honey Crop.

Beeswax

—WANTED—

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Idaho Honey-Producers' Association,
IDAHO FALLS——IDAHO

Water-White Sweet Clover

HONEY

Comb or Extracted

BY THE

Can or Train-Load

For Prices, address 8A3

H. A. Anderson, Sec'y,
At the Rigby, Idaho, Office.

Please mention Am. Bee Journal when writing.

Honey and Beeswax

When Consigning, Buying, or Selling—Consult

R. A. BURNETT & CO.
199 S. Water St., CHICAGO, Ill.

Please mention Am. Bee Journal when writing.

Large Quantities of Both COMB and EXTRACTED

HONEY WANTED

Write us for Price, stating Quantity and Grade.

American Butter & Cheese Co.,
612-14 Broadway, CLEVELAND, OHIO.

BINDER Attachment with Corn Harvester cuts and throws in piles on harvester or winrows. Man and horse cuts and shocks equal with a Corn Binder. Sold in every state. Price $20 with Binder Attachment. S. C. MONTGOMERY, of Texaline, Tex., writes:—"The harvester has proven all you claim for it. With the assistance of one man cut and bound over 100 acres of Corn, Kaffir Corn and Maize last year." Testimonials and Catalog free, showing pictures of harvester.

NEW PROCESS MFG. CO., SALINA, KAN.

HONEY AND BEESWAX

Chicago, Aug. 1.—The yield of 1911 comb honey is appearing on the market. So far it is bringing 17@18c for the No 1 to fancy grades. Extracted brings 8@9c for white, according to quality: amber, 7@8c. The receipts of both are limited to small consignments. Up to this writing no car lots are reported. Prices are not likely to vary much from the above figures, as producers regard the flow as under normal. Beeswax is in good demand at 31@32c, if clean.

R.A. Burnett & Co.

Cincinnati, Aug. 4.—We have our first car of comb honey to arrive, which is selling at 16½c. Water-white honey is selling from 9½@10c. Light amber in 60-lb. cans is selling at 8c; in barrels, 7c. There is no demand for amber grades. Beeswax is in fair demand at $33 per 100 pounds. The above are our selling prices, not what we are paying.

C. H W. Weber & Co.

Indianapolis, July 29.—The demand for white clover comb honey exceeds the supply. Fancy white would sell for 18c readily. Extracted is more plentiful, and sells for 11@12c in 5-gallon cans. The pound jar which has always retailed for 20c is now a thing of the past, and the price is 25c. Producers are being paid about 9c for extracted honey, but no established prices on comb. Beeswax is in good demand, and producers are being paid 30c per pound.

Walter S. Pouder.

New York, July 29.—Extracted honey is in good demand. Receipts are quite heavy from the Southern States and the West Indies. The latter is selling readily at from 75@80c per gallon, and the Southern at from 65@85c per gallon, according to quality. The crop in California is quite short, and prices are ruling high in consequence. Asking prices on the Coast at 8c per pound for water-white sage; from 7@7½c for light amber sage; and from 6¾@6½c per pound for alfalfa. We have recently received reports from all over New York State, Pennsylvania and the Middle West, and the crop in these sections will be much lighter than that of last year. This is due to the cold spring and dry summer. White clover comb honey, new crop, will probably sell at same prices as last year, say from 13@15c per pound, as to quality. It is too early as yet to say what the buckwheat crop will be, and nothing definite can be said until the latter part of August. The outlook now is more favorable than it was two weeks ago.

Hildreth & Segelken.

Kansas City, Mo., Aug. 2.—Small shipments of comb honey, new stock, are commencing to arrive, and the demand is brisk enough to take all of our receipts upon arrival. There is no extracted, either old or new, on the market. We quote: No. 1 white comb, 24-section cases, $3.50; No. 2, $3.25; No. 1 amber, $3 25; No. 2, 3.00. White extracted, per lb., 9c; amber, 7½@8c. Beeswax, 25@30c.

C. C. Cmemons Produce Co.

Denver, Aug. 3.—We quote as follows; No. 1 white comb honey, per case of 24 sections, $3 60; No. 1 light amber, $3.35; No. 2, $3.15. White extracted honey, per lb., 8⅓@9c; light amber, 7½@8c. These are our quotations to the jobbing trade, and apply to new crop of honey only. Old comb honey not wanted at any price, and practically all cleaned up We pay 26c in cash and 28c in trade for clean yellow beeswax delivered here.

The Colo. Honey-Producers' Ass'n.
F. Rauchfuss, *Mgr.*

Boston, July 29.—Fancy and No. 1 white comb honey, 15@16c. White extracted, 12c. Beeswax, 30c.

Blake,-Lee Co.

Cincinnati, July 29.—New comb honey is arriving and finds ready sale at 15@16c a pound in the case from our store. New crop fancy white extracted honey selling from 9@10c in boxes of two 60-lb. cans. Amber honey, in barrels, from 5¾@7c. The above are our selling prices. We are paying from 28c cash, and 30c in trade for bright yellow, choice beeswax.

The Fred W. Muth Co.

"The Honey-Money Stories"

This is a 64-page and cover booklet, 5¾ by 8½ inches in size, and printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes; also 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," and "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food-value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies by express for $1.00. A copy with the American Bee Journal one year—both for $1.10. Send all orders to the American Bee Journal.

All Roads Lead to Cincinnati

"Deal with Weber & Co. at the Service Center"

The supplies you have on hand are worth many times as much to you as those you must order and wait for when the honey-flow is on. We know how busy you are in making final preparations for the big year we all expect; but try not to overlook the importance of getting your orders for sections, foundation, extra hives, supers, etc., in RIGHT NOW. You will be pleased with our QUICK DELIVERIES and with the quality, and we will give your order our best possible attention, no matter when it comes; but we urge you to get in a good stock of sections and foundation NOW. Let us tell you about these goods.

SECTIONS

We handle the best grade of sections made. If you want a hundred or ten thousand, or a hundred thousand, we can fill your order promptly with goods we will guarantee to please. You may judge of the popularity of the sections we sell when we tell you that the manufacturers make upward of twenty-five million of them every season.

FOUNDATION

There is nothing more important to the up-to-date bee-keeper than to have foundation just when he needs it, and of the best quality. We sell nothing but Root's Weed-process Foundation, the recognized standard of the world. The bees appreciate the good points of this foundation, and every bee-keeper knows that it is the best. All grades and sizes constantly on hand. A pound or a ton, just as you like.

There are other items of interest too numerous to mention. We can furnish anything you need in the bee-keepers' supply line, and get it to you so promptly that the goods will reach you just when you need them most. No order is too small for our attention, and none so large that we can not handle it to *your* satisfaction. Send US your hurry orders and allow us to demonstrate what we can do for you. Catalog on request.

Poultry Supplies A special catalog of these Goods, which we will gladly furnish free upon request.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

St. Paul–Minneapolis

The Best of Everything

The Northwestern Limited, a train of matchless luxury and solid comfort, leaves Chicago 6:45 p. m. daily, arrives St. Paul 7:15 a. m., Minneapolis 7:55 a. m.

The St. Paul-Minneapolis Express leaves Chicago 10:10 p. m. daily, arrives at the Twin Cities early next forenoon.

The Badger State Express leaves Chicago 9:30 a. m. daily, arrives St. Paul 10:00 p. m., Minneapolis 10:35 p. m.

Another train—***The North Western Mail***—leaves Chicago 2:50 a. m.

These four splendid trains leave from the New Passenger Terminal, Madison Street, between Canal and Clinton Streets. The most modern railway terminal in the world.

Ticket Offices

THE NORTH-WESTERN LINE

Chicago and North Western Railway

148 S. Clark St. (Tel. Randolph 4221) Passenger Terminal (Bureaus of Information, Tel. Main 965 and 966) and 226 W. Jackson Boulevard

NW1903

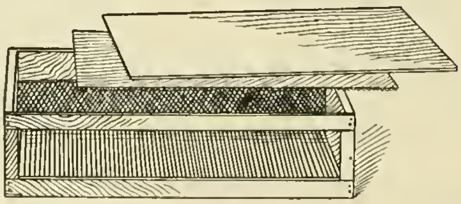
The "Falcon" SHIPPING-CASE

Lined With Corrugated Paper

A good crop of section comb honey to bring the highest price must be marketed in the best shipping-cases obtainable. Poor cases cut the price one to two cents a pound. Use, therefore, only the best and most attractive cases. Such are the cases made at the "FALCON" factory.

Corrugated paper has been proven far superior to the old no-drip sticks. Two sheets, one for bottom drip under sections and one for top (should the crate accidentally be turned bottom side up or receive any heavy blows on top), are supplied with each case. Notice, in the illustration, the corrugated follower to wedge the sections tight.

Corrugated paper above, below, and back of sections, drip-paper top and bottom, extra heavy ends, one-piece wooden covers and bottoms, and heavy slats for glass are furnished in "Falcon" cases. Use no other if you wish your honey to bring the highest price.



Prices

"Falcon" CASES with extra sheets of corrugated paper and corrugated follower cost no more than Cases without these sold by others.

24-lb. for Beeway Sections

Showing Four

This case is 11⅜ inches wide, holds 24 sections 4¼x1⅞ to 1¾ or 20 sections, 2 or 1 15-16.

No. 11 with 3-inch glass,	10, $1.30	100, $18.00
No. 11 with 2-inch glass,	10, $1.90	100, $17.00
No. 1 without glass,	10, $1.80	100, $16.00

12-lb. for Beeway Sections

Showing Three

Holds 12 sections 4¼x1⅞. A convenient standard size.

No. 13 with 3-inch glass,	10, $1.30	100, $11.50
No. 13 with 2-inch glass,	10, $1.25	100, $10.75
No. 3 without glass,	10, $1.20	100, $10.00

24-lb. for Plain Sections

Showing Four

Holds 24 sections, 4¼x1½.

No. 11½ with 3-inch glass,	10, $2.00	100, $17.00
No. 11½ with 2-inch glass,	10, $1.90	100, $16.00
No. 1½ without glass,	10, $1.70	100, $15,00

24-lb. for Ideal Sections

Showing Four

Holds 24 sections 3⅝x5x1½.

No. 16 with 3-inch glass,	10, $1.80	100, $16.00
No. 6 without glass,	10, $1.60	100, $14.00

24-lb. for Tall Sections

Showing Four

For 24 sections 4x5x1⅜.

No. 18 with 3-inch glass,	10, $1.80	100, $16.50
No. 8 without glass,	10, $1.60	100, $14.50

W. T. Falconer Mfg. Co.
117 N. Jefferson St., CHICAGO, ILL.

C. C. Clemons Bee-Supply Co.
130 Grand Avenue, KANSAS CITY, MO.

AMERICAN BEE JOURNAL

Volume LI.

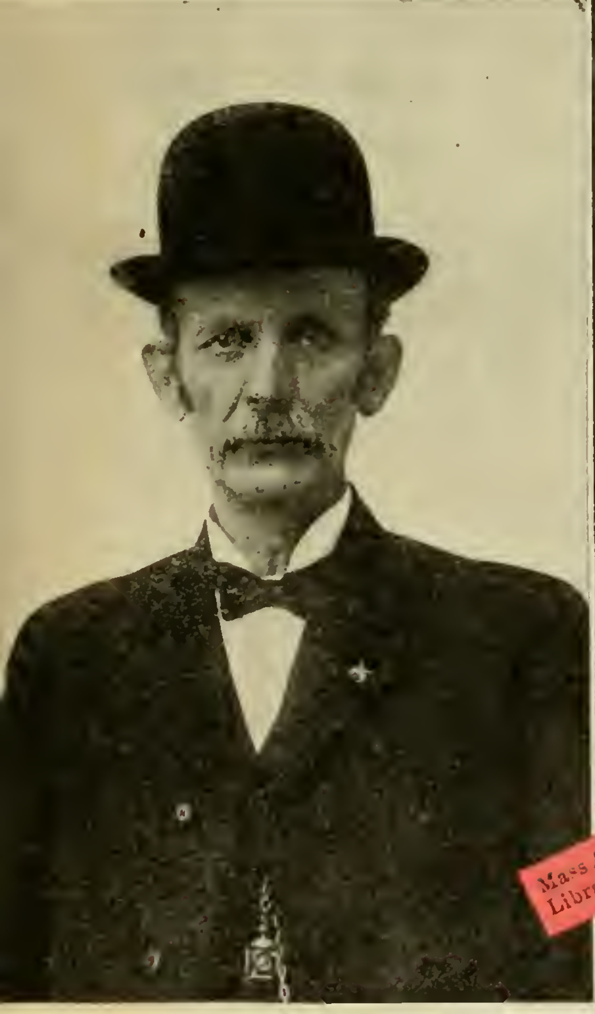
No. 9.

SEPTEMBER
1911

The Late Geo. E. Hilton

On July 12, 1911, there passed from earth one of the kindliest of men, and also one of the most prominent bee-keepers of this country. Geo. E. Hilton was favorably known not only in beedom, but also as a valued citizen and member of society in the State of Michigan.

Mr. Hilton was born in 1847, at Leighton, Bedford County, England, and came to this country with his mother when he was but 5 years old, in the fall of 1851.



Mass Agl College Library Amherst, Mass

The family located near Cleveland, Ohio, where they remained for 5 years, and then moved to Hillsdale County, Mich., where they lived until 1894, when Mr. Hilton went to Fremont, which was his home ever since, excepting for 2 years that he passed in the Ozark Mountains of the South.

Mr. Hilton held many important positions in civic and religious life, among them being for two terms a member of the Michigan Legislature, and for many years superintendent of the Congregational Sunday-school where he lived. For 13 years he held the office of post-master at Fremont. In 1909 he was president of the National Bee-Keepers' Association, and presided at the meeting in Sioux City, Iowa.

For many years Mr. Hilton was a leading bee-keeper of his State, having as high as 250 colonies of bees, from which he averaged, for 8 years, 75 pounds of honey per colony. Latterly he kept about 100 colonies, and also conducted a bee-supply business.

It will be seen from the foregoing that Mr. Hilton was a very busy man, interested in many lines of work, and always successful. He was a man of good judgment, fearless for the right, and interested in everything that was for the advancement and up-building of the community, as well as everything that tended to the betterment of humanity everywhere.

Mr. Hilton had been sick since last January, with cancer of the stomach, his condition growing very rapidly serious until within about a month before his death, when hope of his recovery was abandoned.

He came to Chicago July 10, 1911, to consult a specialist in one of the most noted hospitals, but after examination and consultation, it was decided that it would be useless to perform an operation, as his trouble was too far advanced. He returned to Fremont the evening of July 11th, and passed away the afternoon of the next day, only a few hours after his arrival.

Mr. Hilton was united in marriage to Elizabeth Copeland, 27 years ago. They had 4 children—Huber, Gladys, Stockbridge, and Marjorie—who, with Mrs. Hilton, remain to mourn the departure of a loving and faithful father and husband.

It was our privilege to spend about 2 hours with Mr. Hilton in the hospital here in Chicago, and also some time on the boat previous to his crossing Lake Michigan for his home. He realized that he could not live, and spoke hopefully of the future Home.

Thus, one by one are our prominent bee-keepers and other friends leaving this earth. Only about 6 weeks previous to Mr. Hilton's death, Mr. Hutchinson passed away. In so brief a time were two of Michigan's noted bee-keepers removed from the field of action. But the influence of their lives will remain to encourage those who are still in the ranks, and also those others who will come into the field of bee-keeping for many years in the future. It is not easy to estimate the debt that the present status of apiculture owes to such men as Mr. Hutchinson, Mr. Hilton and others who have gone on before. The results of their efforts to uplift and advance the interests of bee-keepers will remain, though they themselves pass on to higher realms. They will be missed in the gatherings of bee-keepers, both State and National. For something like a third of a century their help and influence have been felt among their fellows. And those of us who remain to continue apiarian work can but resolve to profit by the teachings and efforts which they invested in the field of bee-keeping.

AMERICAN BEE JOURNAL
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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Goes to press the 6th of each month.

National Bee-Keepers' Association.

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

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Are you a member? If not, why not send the annual dues of $1.00 *at once* to Treas. France, or to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

Crown Bone Cutter
Hens fed cut green bone lay more eggs. Get a Crown Bone Cutter. Send to-day for catalogue.
Wilson Bros., Box 814, Easton, Pa.
BEST MADE
Lowest in Price

Queens That "Are Better"— Italians & Banats

Untested, 75c each; $8.00 per doz. Tested, $1.25 each; $12 per doz.
Select Breeders from Full Colonies, $3.00 each.

Wholesale price of Queens—5 dozen or more in one order, deduct 50c per dozen.

After July 1st I am going to make a special introductory price for Breeder Queens that were reared early in spring, and have served me in building up populous colonies, and thereby having fully demonstrated their value. One colony of my Banats has given this season 212 pounds of surplus bulk and extracted honey. Some of my Italians were as populous, and might have given as much surplus had they been in as good location. Breeder Queens, $3.00 each; one dozen or more in one order, deduct 25c each.

One-frame Nuclei, with Untested Queen, $2.00 each; 2-fr., $3.00; 3-fr., $4.00.

Full colonies, 10-fr., $7.00. Add 50c if Tested Queens are wanted; add $2.00 each if Breeder Queens are wanted.

Twenty or more Colonies or Nuclei in one order, deduct 25c each.

I have six different yards several miles apart, and am prepared to fill orders promptly. I solicit your trade and guarantee you satisfaction.

J. A. Simmons, Uvalde Co. Apiaries, Sabinal, Tex.

Lewis Beeware, Bingham Smokers
Dadant's Foundation.
Are Any Supplies Needed by the Bee-Keeper?
BEESWAX WANTED. CATALOG FREE.
Leather-Colored and Golden Untested Italian Queens, $1.00.
The C. M. SCOTT CO., 1004 E. Wash. St., Indianapolis, Ind.

Bees For Sale.

I have a few lots of Bees offered to me to sell, scattered in South Georgia and Middle Florida. The most of them are well located; others can be moved a short distance in good locations. The most of the bees are in modern hives, and some good bargains in the lot. 8Atf

J. J. Wilder, Cordele, Ga.
Please mention Am. Bee Journal when writing.

SPECIAL SALE
Of the following Goods:
30,000 Ideal Sections.
45,000 4¼x1 15-16, 4¼x2, 4¼x1¾.
20,000 4¼x1⅞, 4-beeways.
30 8-frame Wis. Supers. 100 Plain Supers.
All in first-class condition.
Send List of Goods wanted for Best Price.
Catalog Free. **H. S. Duby, St. Anne, Ill.**
P. S.—We handle the Best of ROOFING at the Lowest Price.

50,000 Copies "Honey as a Health-Food"
To Help Increase the Demand for Honey

We have had printed an edition of over 50,000 copies of the 16-page pamphlet on Honey as a Health-Food." It is envelope size, and just the thing to create a local demand for honey.

The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last is devoted to "Honey Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey as a food, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp: 50 copies for 90 cents; 100 copies for $1.50; 250 copies for $3.00; 500 for $5.00; or 1000 for $9.00. Your business card printed free at the bottom of front page on all orders for 100 or more copies.

Address all orders to

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Comb and Extracted Honey

Let us hear from you with your best price on your Comb and Extracted Honey, freight paid to Cincinnati. We buy every time price justifies. No lot too large or too small. We remit day shipment arrives.

The FRED W. MUTH CO.
"THE BUSY BEE-MEN"
51 Walnut Street, CINCINNATI, OHIO

REQUEENING
with Standard-Bred Italian Queens.

The demand for our Fine Standard-Bred Untested Italian Queen is increasing rapidly, because **they give satisfaction.** Here is what two of many pleased customers have to say;

George W. York & Co.—
I must tell you how well pleased I am with the Queen you sent me last year. I thought I had some pretty good Queens myself, but the one you sent me is the best Queen I have now. You know we have had, and are still having, a severe drouth. White clover lasted only two weeks, and while my average of honey per colony is about 40 pounds of surplus, the bees from the Queen you sent me have gathered, so far, more than 100 pounds of fine honey. They are hustlers, indeed, and the bees are very gentle. **Twenty dollars would not buy that Queen.** After this I know where I will get my Queens.
G. A. Barbisch.
Houston Co., Minn., July 14, 1910.

George W. York & Co.—
I have had a good many Queens from you in the past, and have never gotten a poor one. Rev. Milton Mahin.
New Castle, Ind., July 18, 1910.

We could publish many more testimonials like the above, but what would be the use? As "the proof of the pudding is in the eating" thereof, so the proof of the value of our good Queens is in getting and trying them yourself. Send in your order at once and see the nice, vigorous Queens you will get. Some of the largest honey-producers in this country use our Queens. They know what they want, and where to get it. That is the reason they order our Queens.

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EDITORIAL COMMENTS

European Foul Brood in 1911

In the season of 1911, European foul brood showed itself in 41 colonies of my 116. I have no means of knowing how many cases were a home product, and how many were from diseased colonies around me. There were no very bad cases. In most of them there were only a few bad cells—perhaps only a cell or two. In the worst case there was probably not 10 percent of the brood affected.

All colonies were very strong, and I expected the disease to disappear in those colonies that were least affected. But it did not do so, except in one case. Perhaps that was because of the very severe dearth, as the summer of 1911 was one of the worst for drouth and dearth of honey that I ever experienced. In spite of that the colonies were very strong, so that I had no anxiety about doubling or strengthening, for a very important part of the treatment for European foul brood is to make very strong each colony to be treated. No use to try to do anything with a poor, little, discouraged colony.

The queens did not appear affected as in previous years. That was probably because the cases were not very bad. In a bad case the queen appears sluggish, and not worth saving. Likely she is not really diseased by the foul-brood microbe, but living in such surroundings her general health suffers. At any rate, it did not seem necessary to replace the queens, and so, with few exceptions the queens were caged and left with the colony, generally with the cage stuck in the entrance. In a week to 12 days—generally in 10 days—the queen was released, and 10 days later the colony was found to be "clean."

There were, however, 5 cases in which the disease returned after treatment, but appearing all right after second treatment.

With my present knowledge of European foul brood, I would in all mild cases repeat the same treatment wherever a good, vigorous queen was present—that is, cage the queen for about 10 days and then free her. In more severe cases I would destroy the queen, and at the same time give a ripe queen-cell or a virgin just hatched. Or, give a young laying queen after 10 days of queenlessness. And in general the young queen given should be of pure Italian stock, as being more vigorous than common stock.

Let it be clearly understood, however, that this refers only to the European variety of foul brood. For American foul brood it will not prove effective.

C. C. M.

Prevention of Robbing Among Bees

To stop a case of robbing when well under way is not an easy thing. Any fool can start it. It may not be necessary to give a full set of rules for starting robbing, but it may be well to name a few of the things that are likely to prove successful. Then the beginner will know what to avoid.

To make a sure thing of starting robbing, better take it at a time when no nectar is to be had in the field. When bees have all they can do in the field and more to, it sometimes takes something of a genius to start them at robbing. At the close of the harvest is a good time. Even in the midst of the harvest, if because of rain or for any other reason the bees stop gathering, they are always in the humor for robbing.

Leave a frame of brood or honey standing outside for a time, and it may start a case of robbing at the other end of the yard. A robber—and at such a time any bee may be a robber—gets a load of honey from the exposed comb, takes it home, and the word seems to be passed around that honey is to be had, and then others start out. In some way other colonies are aroused; possibly the noise of the robbers attracts the bees of other colonies. At any rate in a little while there is excitement all over the apiary, and bees will be seen trying to crowd into cracks about the hives where there is no possibility of their entering.

At a time when bees are inclined to rob, any change in the appearance of hives seems to attract the attention of the bees. An opening at the back of the hive may not attract the least attention if it has been there all summer, but let it be made afresh and the robbers at once consider it a proper subject for investigation. If a beginner should do such an unwise thing as to start a nucleus in a time of scarcity, an attack is likely to be made upon it. It seems to be a little like the new boy at school, who seems to be a target for all until he settles down in his proper place.

In a time of scarcity, when a hive is opened, if robbers appear upon the scene, darting at the combs as they are lifted out, let the operator go right on, opening hive after hive with no precaution whatever, and he may surely count on developing a case of robbing that may end only with the destruction of one or more colonies.

The wise bee-keeper, however, will look out for the beginnings, scrupulously avoiding all exposure of honey. If work must be done at the hives, he may keep the hive as much as possible covered with a cloth, perhaps slightly saturated with carbolic acid, preferring to work late in the day, so that darkness may close any incipient tendency to robbing.

Safe Introduction of Queens

There is one way of introducing queens that is absolutely safe. Take two or more frames of brood and put them in an upper story over a strong colony, with an excluder to prevent the queen going up. In about 8 days all the brood will be sealed, and if the brood has been of all ages some of it will be hatching out. The ideal thing would be to have all the brood sealed 5 days before putting up the brood. Of course, it is impossible to have all the brood in that condition, but the nearer it comes to it the better. At the end of the 8 days take off the upper story, and in place of the excluder put on a piece of wire-cloth that will allow no bee to pass up, and over this put an empty hive-body, into which you will put the frames of brood, brushing off the bees in front of the hive. Be sure that not a bee is left in the upper story. Now put in your queen and cover up, bee-tight. The young bees that hatch out, knowing no other mother, will of course be kind to the queen. In 5 days put the nucleus on a new stand, with an entrance large enough for only one bee to pass at a time, so that robber-bees will not attack it. Of course it can be strengthened up into a full colony by sealed brood from other colonies.

Ordinarily this will be considered too much trouble for any but a very valuable queen, and it will be considered better to take less trouble and run the risk of losing a queen now and then. But there is a way that is less troublesome that very much reduces the danger of loss in introducing:

Remove to a new stand the hive into which the queen is to be introduced, destroy the old queen, and take from the hive 2 or 3 frames of brood with adhering bees. These you will put into an empty hive on the old stand. Now introduce your new queen into the old hive in the usual way. After she has begun laying, put the hive back on its old stand, returning to it the 2 or 3 frames of brood that had been taken away, destroying any queen-cells that may have been started on them. The secret of the greater success lies in the fact that when the hive is moved to a new stand all the field-bees return to the old stand, and the queen is introduced to a colony of younger bees, and it is the older bees that are likely to be hostile to a new queen.

When the hive is returned from its new stand to the old place, there will be some field-bees that will return from the field to the new stand, but these will be kindly received in the near-by hives. You can, however, avoid losing any bees from the colony. Instead of putting the hive on a new stand, put it on top of the other hive, or on top of the supers, if there be any supers. Then no bees will go to any other hive.

The Cotton Controllable Hive

O. B. Griffin has sent the following, clipped from a reputable agricultural paper:

> *Every family*, that has a spot of land, can keep Honey Bees and raise Honey for family use or for Market. One hundred dollars income from one *Controllable Hive* of Bees in one year. Lots of Honey and Lots of Money, keeping Bees in *Controllable Hives*. No stings. No loss in winter or swarming time. *Something new in Bee Management*. For particulars, write C. B. Cotton. ——, Maine.

Older readers will recognize an acquaintance of a good many years ago, although at that time it was Mrs. Lizzie E. Cotton. So the "Something new in Bee-Management" is not so very new, dating back some 30 years.

But why not elaborate a little on that "One hundred dollars income from one Controllable Hive of Bees in one year?" Suppose a man has 100 colonies. If the income from each is $100, he will have $10,000 in a year. But a good many bee-keepers have 500 colonies each, or more. With 500 colonies the income would be more than enough to keep the average bee-keeper the rest of his days. "There's millions in it!"

Note that no stings and no loss in winter or swarming time. To make the thing complete it should be added that no pasture is needed—just put the bees in a Controllable Hive and the hundred dollars a year from each hive is sure, even if there is not a blossom withing 100 miles.

The very strange thing in the case is that practical bee-keepers go on year after year without taking advantage of this wonderful hive! If a single practical bee-keeper with as many as 50 or 100 colonies uses this wonderful hive, nothing has been said about it in the bee-papers, and bee-keepers do not generally fail to make known their successes.

Why is it that this hive is not advertised in the bee-papers, which are read by the very men who buy most of the bee-hives that are used? Probably for two reasons. The first is that bee-keepers know better than to be fooled by such an advertisement, and the second is, that no bee-paper could be induced to accept such an advertisement, unless to give it a free insertion as in the present case. That a reputable agricultural paper should accept it seems almost beyond belief, for as a rule such papers are conducted by men that are both honest and intelligent.

A Mistake of Beginners—Robber-Bees

It is only natural that beginners should make mistakes, but there is one mistake that is likely to bring such serious results that the beginner should be specially warned against it. It is the mistake of thinking that when robbing has gotten under way it can be at once stopped by removing the object of attack.

Carelessly, a beginner has left a section of honey standing on a hive, and when he next sees it he finds little left but the remains of the comb. At once he takes that away. The returning robbers not finding it where they had left it, go to searching in the neighborhood, and a fierce onslaught may be made on the nearest colony. If he had left the mutilated section where it was, the bees would have cleaned all the honey out of it, hunted over the spot for a time, and then concluding they had gotten all that was to be had they would have quietly left. If a section, or a comb of honey, thus exposed, be discovered when only a little of the honey has been taken by the robbers, it may be safely taken away if in its place a scrap of comb containing a little honey be left.

If robber-bees have made an attack upon a nucleus or a colony, the beginner thinks he can make a sure thing of saving it by carrying it down cellar. How can the robbers possibly get at it there? But wait. When the robbers find only a vacant space where the hive stood, they perhaps think the hive has been moved to one side or the other; at any rate, an attack is pretty sure to be made upon one of the neighboring hives, and if that be carried down cellar it only means attack upon another colony, and the robbers can shift their point of attack just as often as new hives are cellared. Even if neighboring colonies should successfully resist attack, when the hive is returned to its place from the cellar the robbers are pretty sure to attack it with fresh vigor.

The thing to do, when the hive is taken into the cellar, is to set in its place a hive containing perhaps an old comb with a little honey in it. The bees will clean this out, and after thoroughly satisfying themselves the booty is all gone, they will leave it, and the next day the removed colony may be returned to its place. Possibly it may be just as well to have the decoy hive entirely empty, only so it looks as much as possible like the removed hive.

Queen-Mating Stations

The following letter has been received at this office:

> The undersigned wishes to call attention to article in the June-July Review. headed, "Mating Stations," and would suggest that it might be brought up at the next National convention. In the event of a successful launching of such a proposition, we stand ready to lend our aid. Of course, we can hear some say, "We don't need it," that they can secure purity of mating in their own yards, etc., but we are under the impression that it would have a tendency eventually to abolish the poor grade of queens, and give us all a higher standard.
>
> Irvington, N. J. SAWYER & HEDDEN.

The passage referred to is in an article by F. L. Pollock, and is as follows:

> In Switzerland experiment stations are maintained where virgin queens can be mailed to be fertilized in an apiary of select drones. It would seem that the United States is rich enough to provide some such stations, and a request by the National Association might secure it.
>
> If not, surely a number of members of the Association might be found who would take sufficient interest in the matter to subscribe a small sum each, and establish a mating station on some isolated point, where a small apiary could be kept consisting of colonies bred from queens that showed not less than 150-pound record. Two or 3 years of selective breeding in such a yard should work wonders.

This surely is a matter of vast importance, and the suggestion that it be brought up for consideration, and perhaps for action, at the next National convention is very sane. The one thing that more than anything else stands in the way of permanent improvement in bees is the fact that male parentage can not be controlled, but must be left to chance. A bee-keeper may buy the best queen in the world, rear young queens from her, and those young queens, for anything that he can do, may mate with scrub drones from some surrounding apiary. Look at the frantic efforts that have been made to control mating by erecting huge tents, or otherwise. No small amount of money has been spent in this way, and more would be cheerfully spent if success could be made certain.

When one comes to think about it, it does seem that bee-keepers go at the matter of breeding bees wrong end to. When a dairyman wants to improve his herd, if he is financially able, he buys the best bull he can obtain. To be sure, he may buy one or more cows of the right stock, but the bull is the main thing. So it is with the sheep-breeder, the poultry-breeder—in fact, with the breeder of any kind of live stock except bees, improvement is sought through a new sire. The bee-keeper, instead of paying any attention to the sire, gets a new dam. Even if he has in his apiary one or more colonies of superior stock, nine times out of ten he does nothing to encourage drones in these best colonies, and to discourage drones in other colonies but leaves the matter of drones entirely to the bees.

Swiss bee-keepers do better. They have their mating-stations, as mentioned, and they are so isolated that drones of only one particular strain are to be found at each. To one of these mating-stations a virgin may be sent in a fertilizing-box and returned after being mated, parcels post making the matter of transportation inexpensive. The present outlook is that parcels post will be established in this country before very long, and surely isolated localities may be found in this country as well as in Switzerland. Even supposing it should be desired to have a mating-station in a place where bees of all kinds already exist, if the matter were in the hands of the Government or a considerable company of bee-keepers, it would not be so very difficult to obtain control of all drones within a proper radius.

Non-Sitters and Non-Swarmers

Referring to the first editorial on page 197, Mr. C. P. Dadant writes:

> "The point made in the first editorial concerning the eliminating of swarming by comparing it to hens sitting is a thing that had never occurred to me, and I think it is very ingenious. If it was possible to carry it to that point, it would be a great victory. However, there is no suffering for hens that do not sit, and there would be a great deal of inconvenience for bees that would not swarm unless their owner was constantly relieving them by giving them room. But there is a good argument to be made, nevertheless."

Yes, there is no doubt that no slight victory would be achieved if we could have a strain of bees in which the inclination to swarm would be just as little as is the inclination to sit in the so-called non-sitters among hens.

Mr. Dadant thinks there is a lack of parallel, in that bees suffer inconvenvenience when they do not swarm, and there is no such inconvenience for hens that do not sit. It is true that in many cases—probably in most cases where swarming occurs—possibly in all cases—the bees suffer from being crowded, and swarming gives relief. Is it not possible that there is equal suffering on the part of the biddies, to which suffering sitting gives relief? If we should put a broody hen on the witness stand, her testimony might be something like this:

> "After having laid a nice lot of eggs, I was seized with a strong desire to sit on them. My mistress took them all away from me. I could sit just as well on the empty nest, and I did. Then she put me in cold water. I don't know what for. I wanted to sit as much as ever, and went back to my nest. Then she tied a string to my leg and tied me to a post. It was torture to me not to be able to get to my nest, but I did the next best thing and sat on the ground. Her little boy came along and let me loose, and you may be sure I was soon back on my nest. Oh, how good it did seem to be able to 'cuddle doon' and just sit and sit! If my mistress knew what real suffering it is not to be permitted to have my 'sit' out, I don't believe she would try to stop me."

But admitting all the discomfort there may be for the bees when lacking room, is not Mr. Dadant putting it rather strong when he talks of "constantly" relieving them by giving them room? It may be well to inform him that at Hamilton, Ill., there are bees which do not swarm—or at least 95 percent or more of them do not swarm—and it has never been made public that their owner spent much time in giving them more room. If enough room were all that were needed, that could be given once for all, enough and more than enough for the season.

It will hardly do to admit that poultry-men are so much ahead that they can to a large extent breed out a natural instinct, and that bee-men can do nothing in that line.

MISCELLANEOUS NEWS ITEMS

The Minneapolis Convention.—We can not attempt in this number to say very much about the Convention of the National Bee-Keepers' Association held in Minneapolis, Minn., Aug. 30th and 31st, further than that there was a good attendance, and it was a live meeting from beginning to end. In addition to a great deal of very valuable discussion, a new Constitution was proposed, and recommended for approval to the membership at the November election. At that time a full copy of the new Constitution will be mailed to each member, and also the nominations for officers and directors to be elected.

Next month we hope to give a brief review of the Convention, and also tell somewhat in detail of the generous entertainment accorded to the visiting members by the Minnesota Bee-Keepers' Association, after the Convention was over. We regret the lack of room and also time in this number for a fuller report of the meeting. But it will keep all right for another month. We might add, however, for the encouragement of the National membership who read the American Bee Journal, that plans were made for a delegated organization, which, when carried into effect, will give something very much superior to anything we have ever had in this country in the line of a National organization of bee-keepers.

◆

Decline in German Bee-Keeping.—From the publisher, Alfred Michaelis, Leipzig, Germany, has been received a pamphlet of 44 pages, written by Prof. Reinhold Michaelis, with the expressive though not very brief title, "Warum stehen auf den Doerfern so viele Bienenhuetten leer?" (Why do so many apiaries in the villages stand empty?)

The author says that statistics show that in the past 7 years there has been a falling off of 10,650 in the number of colonies of bees in Germany. When asked why their hives are empty of bees, farmers are likely to reply that they have no luck with bees, and that they have died off. The author tells them that they have no luck because they have no knowledge of what is going on in the hives, and especially that they never have seen a queen, and allow each queen to live so long as she likes. Old queens and drone-layers are at the root of the trouble, with box-hives to make matters worse.

The author makes requirements of the common bee-keeper that would be considered rather exacting for the specialist in this country. He says that one with a considerable number of colonies should keep books and write down the birthday of each queen, the day of her fertilization, the beginning of her egg-laying, her prolificness, color, size, and other characteristics.

Instructions are given as to prevention and cure of drone-rearing colonies, and instruction as to other matters to raise bee-keeping from its declining condition.

Bee-keepers in this country would be inclined to put a question-mark after the statement that a young queen is fertilized after 3 days, and that no colony swarms so long as it builds comb or has open brood to nurse.

◆

Unusual Sensitiveness to Stings.—K. Koch says in substance in Prak. Wegweiser: In 1909 a teacher in East Prussia wrote me that he would have to give up bee-keeping because a sting always caused coughing, difficulty of breathing, palpitation of the heart, and vomiting. In such cases the patient has within himself the seat of disease, the sting being merely the exciting cause that makes the hidden disease assert itself. I advised a cold bath every morning, the avoidance of coffee tea, or anything else to excite the nerves, recommending Kneipp-coffee (roasted barley) instead. He continued the cold baths for 3 months, and if he was stung any time after this he at once plunged his feet in cold water and the disagreeable symptoms failed to appear. The working of this last means is this: Through the cold water the blood, which otherwise would call forth the irritation and oppression in the chest, flows downward to the feet to restore there the loss of heat caused by the cold water.

◆

Moving 100 Colonies 1200 Miles.—Wm. L. Couper reports in Gleanings in Bee Culture that he moved 100 colonies of bees from Manor, Saskatchewan, to Hatzic, British Columbia, a distance of about 1200 miles, taking about 6 days for the trip. The hives were packed in such way that water could not be given on the way, but the weather was so cold that the first night of the trip the water in the water-barrel was frozen so hard that the ice had to be chopped out with an ax. One colony was a total loss, the bees being practically all dead, while two others were so decimated that they were united with other colonies. But all 3 of these colonies had their combs broken down, and the entrances were choked with dead bees and honey. Mr. Couper gives his manner of packing as follows:

> The bees were confined by means of wire-screen covering the tops and entrances. I did not have enough wire-cloth to pack all of the colonies in this way, so over the last 9 or 10 hives I stapled a bottom-board, deep side down, with the entrance on the opposite end to the lower one so as to give a through draft and an air-space above. These colonies traveled as well as those covered with screen. The first row was packed against the back wall of the car, frames parallel with the rails, and hives as close together as possible. The second row was then put in place on the floor of the car, the back end of the bottom-boards touching the front end of the first row. Then a 6-inch board the full width of the car was laid so that it overlapped both rows of hives, and was nailed to every second hive. Besides fastening all the hives solidly together, this plan had the advantage of leaving a clear air-space between the tiers of hives, which were packed 4 high, each tier being fastened in the same way. Above the hives, supers were piled to the car roof, and were also placed in front, as I wished to exclude the light as much as possible. Boards were nailed across the front end of these supers, held in place by cleats spiked to the sides of the car. I used inch boards here, but 2x4's would have been better, as they sagged considerably in the course of the trip, and one pile of supers worked loose and fell on the cow.

◆

Finding Queens.—Mr. J. E. Crane gives in Gleanings in Bee Culture the following method of finding queens:

> Some time in the winter I read in Gleanings of a basket or box made of perforated zinc, to shake bees into for catching or finding queens. Well, I made one with legs to hold the basket a little above the ground, and it is a great success. I wouldn't take ten dollars for it if I couldn't make another. How easy to shake a swarm into a basket and let the bees through and find the queen!

◆

Worker-Eggs in Drone-Cells.— The editor of the Australian Bee Bulletin quotes this from the American Bee Journal:

> "There have been a good many reports of worker eggs being laid in drone-cells, but probably no case has yet been found in which the bees have not first narrowed the mouth of the cell."

Editor Abram inquires why the editors of the American Bee Journal have never "thought to put such simple tests to practice," and adds:

> "It so happens that I have made the experiment several times, and I had in spirit of wine for years samples of drone-combs with bee-brood in various stages in the cells, some where the bee had hatched and also the bees hatched therefrom, and many persons have seen them thus preserved, but though the capped cells looked almost like drone-brood the bees hatching were the usual size, and the thus emptied cell looked like any other drone-cell."

To Editor Abram's question it may be replied that the writer has more than once put the matter to the test, although generally undesignedly. Generally, when drone-comb has been given only drones have been reared in it, because the bees desired drones. But in some unusual cases, as where a patch of drone-comb was right in the brood-nest, the bees having a vigorous young queen that had been laying but a short time, and no drones desired, workers would be reared in the drone-cells.

Editor Abram says "the capped cells looked almost like drone-brood." Well, here the capped surface was flat, as over worker-cells. He says "the thus emptied cell looked like any other drone-cell." Here, the difference was easily seen. The mouth of the emptied cell was narrowed to the size of the worker-cell. Editor Abram's bees seem to do differently.

◆

California Honey Crops.—In a pamphlet issued by the California Development Board, entitled, "California Resources and Possibilities," we find the following under the head of "Honey:"

> While honey is produced for the market in all of the principal valleys, the great bulk of the commercial product comes from the San Joaquin Valley and the counties south. The crop for 1909 was the record crop, and nearly double the average. The estimates of the honey product for several years are:

Year.	Pounds.
1899	2,822,000
1900	2,208,000
1901	8,112,000
1902	5,125,000
1903	8,400,000
1904	7,000,000
1905	9,500,000
1906	5,350,000
1907	8,700,000
1908	5,250,000
1909	11,532,000
1010	5,500,000

It seems the highest estimate was for 1909, when there was about eleven and a half millions of pounds. That would be only about 330 carloads averaging 35,000 pounds to the car. We don't think the estimates for the several years are too high, judging from other reports that we have seen from time to time during the past 12 or 15 years.

We wonder what the estimate for the crop of 1911 will be.

◆

The Borrowing Habit is thus happily put in a rhyme sent to us by R. L. Wildman, of Oregon:

"Don't stop my paper, printer—
  Don't strike my name off yet,
Though times are rather stringent
  And money hard to get.
To scrape a little harder,
  Is what I mean to do,
And scrape the dimes together—
  Enough for me and you.
I hate to ask my neighbors
  To give me theirs on loan;
They don't just say—but mean it—
  'Why don't you have your own?'"

It is a good thing for each person or family to have a copy of any publication, or anything else, for that matter, so as not to borrow from friends or neighbors. Of course, emergencies will arise when it is necessary to borrow temporarily.

◆

A Roll of Wire-Cloth as a Strainer.—Carey W. Rees, in the Bee-Keepers' Review, describes a honey-strainer that is novel, inexpensive, and efficient. He says:

> To make this strainer, use a half-gallon tin bucket. If the upper edge has a rim, unsolder the rim so that the inside is smooth and even. The bucket or can must be straight and not flaring. Then get a piece of galvanized wire-cloth, the kind that is used for door and window screens. The wire-cloth should be about 12 or 14 inches wide. Roll up the wire-cloth until there is about 7 thicknesses of wire; then place one end inside of the can or bucket you have prepared for it. Now take some cappings and press them into the middle of the wire coil until the can it is in is about half full, or, perhaps, nearly full, when the strainer is ready for use. If one wishes, one can cover the bottom of the wire-coil with a cloth, and tie it by wrapping a string around the wire coil and cloth. I don't often use the cloth because it is a little more work to tie it on. When the day's work is done, remove the wire coil, which should have a string around it so it won't unroll. Take a screw-driver and push out the cappings, and so forth, from the inside of the coil of wire. Put it back in the can and press in some more cappings, then it is ready for use again.
>
> It does not need washing often.
>
> The honey should fall into the middle of this coil of wire.
>
> If it does not strain well, use another coil of wire, and roll it until there are thicknesses of wire enough so it *will* do good work.
>
> If it does not strain fast enough, make one a little bigger around, or higher; either one; it will not have to be very large.
>
> I set the strainer in a flat-bottomed funnel; the funnel leads the honey into the honey-can. The can that the coil of wire is in has a tight bottom, and the strained honey flows over the top of the can through the wire into the funnel. Sometimes the honey rises up nearly to the top of the wire coil, and strains all the way up.

◆

Swarm Control.—Under this heading appears the following from T. Stapleton, in the British Bee Journal:

> "For many years past I have tried various methods of swarm control, and discovered about 5 years ago a very simple but reliable method that will work in all stages of condition. It is as follows:
>
> Select the method which suits your purpose best to supply as many queens as are required for the apiary. When they are hatched and removed from their hives, before they have fed if possible, such queens may be run into any hive that we desire to prevent from swarming; it should be done in the middle of a fine day, when bees are gathering freely; run in the young queen at the entrance. No care need be taken of the old queen, unless she is required for further use. "What about queen-cells?" may be asked. If any are present, the young queen will look after them. I have run in from 10 to 15 a day, until I have requeened the whole of my apiary without a single failure."

After having been tried for 5 years, apparently with a considerable number of colonies, it would seem that the method might be considered reliable, yet it is still possible that it would succeed under some conditions and fail under others. G. M. Doolittle, some years ago, gave practically the same thing, but he by no means made so broad a claim for it. His teaching was that if, toward the close of the season, a virgin be given to a colony that was thinking of superseding its queen, the virgin would be accepted in most if not all cases. Evidently that applies only when the queen is somewhat advanced in age, and at a certain season of the year, while Mr. Stapleton says nothing about the age of the queen or the season of year. No doubt he is right that a virgin directly from the cell will be kindly received in any hive. She is an innocent baby, and no one thinks of her doing any harm. But wait till she becomes a few days old and begins to "put on airs" as one making pretensions to the throne, and if the reigning queen be one in vigor, whom the bees have no notion of superseding, an untimely death will be the fate of the interloper.

◆

Bee-Keeping in England.—We have received the following from Mr. Frank Benton, taken from the London Times of Aug. 1, 1911:

> Bee-keepers will be gratified at the decision of the Treasury to make a substantial grant of money to the British Bee-Keepers' Association for the promotion of practical and scientific bee-keeping. Although the Board of Agriculture and Fisheries has done much useful work in furthering this industry, it has long been a grievance

amongst bee-keepers that direct State aid has not been rendered, in view of the fact that such assistance has been forthcoming in the case of several of the British Colonies as well as in the case of France, Germany, Russia, and other foreign countries.

The grant of a sum not exceeding £500, which has been made on the recommendation of the Development Commissioners, will enable the British Bee-Keepers' Association to do much-needed work in the general organization of the industry, including the promotion of county bee-keeping associations and the giving of lectures of an elementary and introductory type calculated to attract the interest of country audiences to the advantages of bee-keeping.

A further grant of £350 has specially been allocated for the purpose of enabling an experimental apiary to be provided in a suitable central situation, such apiary to be equipped with the requisite modern appliances used in bee-keeping for demonstration purposes. In connection with the apiary there will be arrangements for the training and examination of lectures; consequently there ought to be in course of time a marked improvement in the qualifications of these officials, whose services have in recent years been so much requisitioned by county councils. It is not at all improbable that the number of these will have to be materially augmented owing to the impetus given to apiculture by State assistance.

There is an experimental apiary in the Luxembourg Gardens in Paris, where varieties of frame hives can be inspected and advice obtained as to the most suitable to be used, the manipulation of colonies of bees being demonstrated by capable officials. Interesting evidence was laid before the Development Commissioners on April 27 last, by Mr. Walter F. Reid, one of the witnesses, as to the interest taken by the general public in this apiary.

Bee-keeping has received a serious setback in recent years owing to the prevalence of what is generally called the "Isle of Wight disease," which has destroyed countless colonies of bees throughout the country. It may be added that fruit-growers were amongst the first to appreciate the gravity of the harm which would result to their industry from so great a decrease in the number of colonies kept. Consequently the financial assistance for the promotion of apiculture which is to be given by the Treasury, will tend to restore confidence and to give much-needed encouragement to those engaged in bee-keeping.

◆

"Queenie; the Autobiography of an Italian Queen-Bee."—This small work by T. Chalmers Potter, just published, has the rather pretty conceit, as its title suggests, of telling in the language of a queen-bee what happens among bees. It can hardly be recommended as a book of instruction for one who knows nothing about bees, its statements being too much at variance with the actual facts.

We are told that a queen-cell prepared for swarming is six-sided; which is true of a post-constructed cell, but not of a queen-cell built while the old queen is present.

A queen-cell looks like a hanging peanut shell, only the color is somewhat darker, sometimes almost black. It would have been well to add that a queen-cell may also be even lighter than a peanut shell, depending upon the color of the surrounding comb.

The cells that are almost black, according to the story of the queen, are those that "are left on the combs of a hive by the bees for a long time, and used as the birthplace of other queens."

That the same queen-cell has been used the second time by the bees will be news to bee-keepers.

Quahking is the note uttered by a virgin in her cell, "and sometimes uttered when two queens are at liberty in the colony when a battle between them may be impending." Was a queen ever known to quahk *after* being outside her cell?

In the case of a prime swarm, we have the remarkable statement that the first virgin to mature was ready to leave her cell two days before the issuing of the swarm, but was held captive in her cell by the workers until the old queen left with the swarm. And this seemed to be given as the normal procedure. Did such an exception ever happen?

All these errors occur in the first dozen pages of the book, and the remainder of the 70 pages of reading matter have their full share of errors. Too bad that the author should not have been more familiar with his subject, or that he did not employ an experienced bee-keeper to revise his manuscript.

◆

Mr. A. Godon, whose picture is reproduced herewith, and who died in June, 1911, was president of the Society of Apiculture, and editor of "L'Abeille Bourguignonne," a periodical published under the direction of that association, and now in its 27th year.

A. GODON.

Mr. Godon was one of the champions of progressive bee-culture in Eastern France, and had devoted most of his time to the spread of new methods among the country people.

◆

Japan Clover.—Farmers' Bulletin 441 of the United States Agricultural Department highly commends Lespedeza, or Japan clover, as a forage plant for the South, especially for the cotton-belt. No mention is made of it as a honey-plant, but it will probably be an addition to the honey-resources.

◆

Saccharin in Food Prohibited.—This substance, which is said to have 300 times the sweetening power of sugar, and which has been used as a substitute for sugar in over 300 classes of foods in which sugar is commonly recognized as a normal and valuable ingredient, has been given a black eye by the United States Department of Agriculture. Food Inspection Decision 135 says that if the use of saccharin be continued it is evident that amounts of saccharin may readily be consumed which will, through continual use, produce digestive disturbances; and "the Secretary of Agriculture, therefore, will regard as adulterated under the food and drugs act, foods containing saccharin which, on and after July 1, 1911, are manufactured or offered for sale in the District of Columbia or the territories, or shipped in interstate or foreign commerce, or offered for importation into the United States."

◆

Which Bees?—The following is sent us by Mr. G. E. Bacon, advertising manager of the G. B. Lewis Co., Watertown, Wis., who says that it "might be appropriate for the American Bee Journal:"

FAIR ENOUGH.

Indignant Stranger—Here! coming through your garden I've been stung by one of your confounded bees!

Bee-Culturist—Which one? Just you point it out, sir, and I'll deal with it immediately. —*Philadelphia Bulletin.*

The Oklahoma State Convention will be held in Oklahoma City, Okla., Tuesday, Oct. 3, 1911, on the State Fair Grounds, in the evening. The program is as follows:

How a Good Location May be Made Better—B. F. Bartholomew.
Does it Pay to Keep a Tidy Bee-Yard?—Grover Boardman.
Why Bees Should Interest the Farmer—E. Q. Couch.
Why Bees Should Interest the Business Man—Arthur Rhodes.
The Necessity of an Association—G. E. Lemon.
Some of the Science of the Bee—Prof. C. E. Sanborn.
Some Observations of the Growth of the Industry in Oklahoma—F. W. Van De Mark.
How I Caught the Bee-Fever, and Why I Still Have It—Joseph Heueisen.
Some Comparisons of Northern and Southern Bee-Keeping—Geo. H. Coulson.

All interested are cordially invited to be present.

ARTHUR RHOADS, *Sec.*, Coyle, Okla.
N. FRED GARDINER, *Pres.*, Geary, Okla.

◆

The Missouri Bee-Keepers' Association will meet Sept. 27 and 28, 1911, during the Electric Park Co.'s Missouri Valley Fair at Kansas City, Mo. All members are requested to be present, and any one interested in bees and honey is cordially invited to attend. There will be several lectures given on the management of apiaries and the production of honey. A live-bee demonstration will also be given daily, showing the public how bees can be handled. All bee-keepers having any nice honey should write the Electric Park Co., Kansas City, Mo., for their Fair catalog.

M. E. TRIBBLE, *Sec.*
Marshall, Mo.

◆

N. Illinois and S. Wis. Convention will be held in the Court House in Freeport, Ill., Tuesday, Oct. 17, 1911. All interested in bees should be sure and come and bring anything new that you have that would be of interest to bee-keepers. The question-box will be a prominent feature of the meeting.

B. KENNEDY, *Sec.*
Cherry Valley, Ill.

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Bee-Keeping for Working Girls

Editor Digges, of the Irish Bee Journal, finds no difficulty in recommending the industry of bee-keeping as a profitable occupation for girls whose allowances are small. He says:

"If $50 would come in handy as an increment; if $100 would help to balance receipts and expenditures; if $150 would pay for extra toques and gowns, extend a needed holiday, or serve some other useful purpose, there is no real reason known to us why such sums should not be raised by any diligent girls, suitably situated, who would set to work at bee-keeping. As work, it demands no extraordinary physical strength; it is healthy, invigorating, fascinating; it is recreation as well as work; it is a nature-study, lifting the mind above the humdrum affairs of ordinary domestic life; free from danger in itself, it offers a safe retreat from the male bore, who is usually in terror of bees; and it is an occupation that suits itself most agreeably to the quiet temper, gentle touch, and patient, persevering attention to detail, which women and girls, much more than men, can bring to bear upon it.

A Good Price for Honey

No, I would not like to be without the American Bee Journal so long as I keep bees, which will be as long as I live, I hope. I love them dearly; they are doing well for me, considering the pasture they have. I have 19 colonies, and run for comb honey—pound sections wholly. I get 25 cents per pound. Is not that good?

Raymond, N. H. MRS. A. E. LAURENCE.

You are certainly to be congratulated on the price you get for your honey. As long as you are able to dispose of it at such a price, would it not be a good thing to keep a larger number of colonies?

Taking Off Honey—Keeping Empty Combs

I never have any trouble taking off supers of comb honey; in fact, I wish I could take off some each day, as each section of nice white honey makes me smile. I take the smoker and brush-broom, and then open the hive very carefully, and raise up the cover of the super, and smoke the bees until they leave the top of the super; then I pry it up with the handy Ideal hive-tool. (I could not do without it.) I lift the super off, lean it against the hive, put on the cover, and set the smoker on the hive-cover; pick up the small brush-broom, and brush all the bees I can off the super, then carry the super (which is sometimes pretty heavy for a woman to carry) to a table under a shade-tree, some distance from the hives. On the table are two small sticks to set the super on, and to keep from crushing bees, for I never kill a bee if I can help it. With the hive-tool I pry out the sections and holders, piling the perfect sections in a pan very carefully, and putting back into the super the unfinished sections with starters to fill the super again. I then carry the super back to the hive, use the smoker freely, and put the super on the hive.

Then I send word to the neighbors that I have taken off some honey, and John and I have biscuits and honey for supper.

EMPTY BROOD-COMBS RUINED IN WINTER

All people have troubles of their own, but I want them to know of some of mine. In the fall of 1910 I had some nice, straight brood-combs which I had saved during the year from colonies I had united, and, of course, meant them to hive swarms on in 1911. Each brood-comb represented its weight in cents. Part of the combs I stored down cellar on a swing-shelf, in a dark room, and the rest in a light room upstairs. Imagine my dismay to find, last spring, that the combs that were upstairs were eaten into shreds by a hairy bug or worm, such as work on dried beef; and the ones in the cellar were spoiled by the bee-month, which, after making the combs useless, had gone into winter quarters in nice beds all along the brood-frames. I did not suppose the combs would be harmed through the winter months, but they were spoiled.

OHIO BEE-WOMAN.

The Bee-Veil and Bee-Stings

BY KATE LOWE GRAHAM.

O bee! I can hear your loud humming;
I want to get close to you, dear;
But the sting in your tail keeps me fussing—
The tale of a sting is what I much fear.

The little gold bands on your back, dear,
Your eyes in such crowds on your head,
And those lovely antennæ so black, dear,
Are so nice—but the sting's what I dread.

The baskets you wear on your thighs, dear,
Are big, and so goldenly packed;
And your wings are as fine as your eyes, dear,
And the honey's so perfectly sacked.

When you're sailing up close to the hive, dear,
And the landing's not easy to make,
It's fun to see just how you dive, dear—
Like an air-ship not sure of its brake.

Now the cactus and the greasewood are blooming,
And the sun's steering Northward again;
You are working all day till the gloaming—
Each one of you working like ten.

I've seen you dive down in the lilies;
I've seen you sail off on the wing;
But I am not going to be one of the sillies,
Walking around with a terrible sting.

That's why I sit on the fence, dear,
And watch you flock up from the place
Where pricklies and gold-balls are dense, dear,
With this funny bee-veil on my face.

Socorro, Mexico. —*Gleanings in Bee Culture.*

Bar le duc Currants and Honey

Pick over selected red or white currants, wash, drain and remove from stems. With a sharp-pointed penknife make a very small cut in each berry, and take out the seeds one at a time, using a needle, so as to break the fruit as little as possible. Use equal weights of prepared fruit and extracted honey. Put the honey in a preserving kettle, and, when heated, add fruit, bring to the boiling-point, and let it simmer 4 minutes. Skim out the fruit and put it in small glass tumblers. Cook the syrup until thick, and fill the jars with it. Cover the top of the glasses with a circular piece of paraffin paper, then tin-foil, then 2 thicknesses of white paper, fastened over the sides of the glass with library paste and then tied with a string.—W. H. COMP.

Honey in Place of Sugar

The Van Thomas Co., of Los Angeles, Calif., is making plans for a book of recipes in which honey is used exclusively for sweetening. This is a move in the right direction. If the mothers of our land could be brought to understand the truth in regard to using honey in place of sugar, its consumption would be doubled in a very short time.—MRS. H. G. ACKLIN, in Gleanings in Bee Culture.

Honey-and-Oatmeal Cookies

Granulated sugar, 1½ cups; honey, ½ cup; 2 eggs and a cup of melted butter. You can put some lard with it if you wish. Mix the sugar, honey, and butter; then add eggs, and beat lightly. Dissolve ½ teaspoonful of baking-soda in 4 tablespoonfuls of hot water; one teaspoonful of cinnamon, and ½ teaspoonful of cloves; one cup of finely cut raisins; roll in a little flour; add 3 cups of flour; 3 cups of rolled oats; mix all together and roll out on a board to medium thickness; cut in small cakes, and bake in a moderate oven. Keep in an air-tight box. (We never need the box, as they don't last long around here.)—WENDT BROTHERS, in Gleanings in Bee Culture.

Honey for Burns and Chilblains

"For burns and scalds pure extracted honey is very good; it will generally relieve the pain in a very short time, and induce the wound to heal very rapidly." A writer quoting the foregoing from a medical work, records that in a case which came under his own observation, where a man had his hands badly scalded, the cure worked favorably. The hands were dipped in honey and wrapped in cotton wool, the application being renewed in course of time.

As a consequence of moving about in cold weather with damp feet, children are frequently troubled with chilblains. Honey helps to cure them. Coat a piece of cloth with honey and apply it to the sore when the child is going to bed. A few applications should bring about a cure.—D. M. MACDONALD, in the British Bee Journal.

I derive a great deal of information from the pages of the American Bee Journal, and will never allow the "measly" price of $1.00 to come between myself and the loss of the Journal. W. R. CUNNINGHAM.

Rayville, La., July 1.

CANADIAN BEEDOM

Conducted by J. L. Byer, Mt. Joy, Ontario.

Extreme Drouth and Poor Crops

At this date (Aug. 18), the drouth is still unbroken in our locality. There is quite a large acreage of buckwheat around us, but with such extremely dry weather, of course little nectar is being secreted. Rain within a week might still mean some honey, but just now there are small prospects of rain. It is needless to say the bee-keepers are not the only sufferers, and, all things considered, the crops are the poorest in our section that we have any record of. No matter how fertile the soil, if Jupiter Pluvius withholds his services vegetation can not grow.

Some time ago I remember reading how they keep grass away from hive-entrances in some of the Western States—simply keep away the water, and the trick is done. Well, that is what has happened here this year, and for about 2 months it has not been necessary to cut any grass around the hives. Unfortunately, we have not the means, though, that they have in the States referred to—of *giving* water to places not *near* the bees, and so, after such an experience as we have had this year, we prefer to have rain, even if it does mean that grass will have to be cut in front of the hives.

"In Everything Give Thanks"

Much obliged, Dr. Miller, for that able sermonette given at a time when it must appeal to a host of others who "are in the same boat as yourself." The August American Bee Journal came to hand a few mornings ago, as I was on my way to the city for that day. While waiting at the depot for the train, I read the item in question (on page 243) to a few friends that happened to meet with me there, and all pronounced it as being capital advice to the questioner, and "just what you might expect from the Doctor."

While I have no doubt that intimate friends would give the writer of these notes the credit of at least being a "cheerful idiot," yet I must confess that there are times when the thought comes that things are not going as I would like them to, and at such times a message like the one referred to, does so much good. All day long, while going about the city on business matters, the "thankful idea" remained with me, and my! it is wonderful how much we have to be thankful *for*, when we begin to compare our lot with that of some others less fortunate than ourselves.

As one perchance goes through some of the poorer quarters of a great city, and sees the squalid misery to which many are doomed all their life, how thankful we are, or at least should be, that our lots have been cast in so much more pleasant places. As I passed through great factories, where men and *boys* and *girls* work 10 hours a day the year around at work that appears so monotonous to the onlooker, how thankful I was that my life was being spent in God's pure air and sunshine, and that I was not doomed to act as a "machine operating another machine"—really, that is the way the matter appeared to me as I watched operators working in a noisy room, turning out by "piece work" the same kind of utensils, hour after hour.

It is needless to say, as my mind dwelt on these matters, I almost forgot that the "crop was short," and my advice to those who may be subject to the "blues," is always to try to see how much better you are off than your more unfortunate brother — it surely will work a cure, every time.

What a pleasant world this would be if we could all exemplify the spirit of a couplet that just now comes to my mind—at present I can not recall the name of the writer. It runs something like this:

"The inner side of every cloud is always bright and shining;
I therefore turn my clouds about,
And always wear them inside out,
To show the lining."

Reciprocity and the People

Referring to the "reciprocity" discussion in the bee-papers, as mentioned on page 229, I might say that every paper picked up has the word showing on every corner, so perhaps it is a blessing that the bee-papers, at least, are giving the subject a rest. Now that the issue is being fought out in a general election here in Canada, we certainly are getting lots of "education" on the subject, as about every mail brings literature franked through from Ottawa, by both the opposition and the Government members. Personally, I feel that the right tribunal is being consulted, and shall be content to accept the verdict, whatever it may be, without any squealing, as the majority must rule.

With such a momentous question at issue, I rather feel that Canada is taking a better course in the matter by consulting the people, for after the fight is over the defeated party, whichever it may be, will have the assurance that it is in the minority, and will likely take defeat with better grace than would have been the case if the thing had passed without first appealing to the people.

Bee-Papers and Whiskey Advertising

The "American Prohibition Year Book for 1911" has an "honor roll" of the different magazines and newspapers that refuse to accept whiskey advertisements, and in some way the names of the bee-papers have been omitted from this roll. The eagle eye of the editor of the American Bee Journal happened to notice this, and wrote the National Chairman, calling his attention to the omission. In the issue of the "American Advance" for July 29, Editor York's letter is gracefully acknowledged, and the editor of the "Advance" concludes as follows:

> "Mr. York has long been known as one of the stanchest Prohibitionists of Chicago, and the 'Advance' is very glad indeed to accord this credit to the leading journals of this prosperous and happiness-bringing industry."

Mr. York called attention to the fact that for over 25 years, to his personal knowledge, not a single bee-paper in the country had accepted a liquor advertisement, "and none of them would think of doing so."

Aside from the moral aspect of the case, it appears to me that bee-keepers owe Editor York a debt of gratitude, from the fact that incidentally the "Advance" gives a very nice write-up for the bee-keeping industry. In proof of this let me quote the first few paragraphs of the article in question, wherein the paper acknowledges Mr. York's letter:

> "There is all the difference in the world between honey and whiskey.
>
> "In the first place, whiskey carries its sting wherever it goes, while honey leaves it behind in the hive from which it originally came.
>
> "In the next place, scientific investigation has proved the value of honey as a nutritious food, while science and medicine alike are uniting to expose the falsity of the food claim for any alcoholic beverage."

[Since the "American Advance" published that the bee-papers do not print whiskey advertising, a Kansas City, Mo., whiskey firm sent us an advertisement. Upon our "firing" it back at once, and advising them to "get into some honest business quick," they were terribly offended, and almost threatened to wipe us off the face of the earth! We repeated that we think the whiskey business a dishonest business, and thought our advice good—that they ought to follow it, and get out of a bad business that ruins so many of their fellowmen.

You know, the Devil doesn't like to hear the truth, and so one Whiskey Devil squirmed a little. But some day, bee-keepers and a lot of other good people will unite in helping lots of folks to get out of the bad business, and force them to look up an honest business. May be some of them will keep bees, and then sell honey instead of whiskey! Who knows?—G. W. Y.]

Coal-Oil and Carbolic Acid to Prevent Robbing

Much is being said at the present in the different bee-papers relative to the value of carbolic acid in the apiary as a prevention of robbing. While I have never had any experience with the acid, I can readily believe it would be effective, as I have often used coal-oil, and know it to be of great value. If a hive is being robbed, pile a bit of hay around the entrance, dampen it with water, and then also add some coal-oil, and robbing will stop instantly. Even a queenless colony can be saved this way, and I would readily believe that carbolic acid would be even more distasteful to the bees than coal-oil.

Relative to what a correspondent says in this Journal as to the effect of carbon bisulphide on the eggs of the wax-moth, the editor asks (page 233) whether it is a fact that the stuff will kill the eggs. No, sir, there is nothing in the claim, for carbon bisulphide *will* kill the eggs of the wax-moth every time, if properly used, as I have proved conclusively more than once. Many a time I have packed away hundreds of combs in a large box, and *one* treatment always did the job perfectly. Needless to say, the combs at the time of treatment contained eggs, larvæ, etc., of the wax-moth, and from the fact that the one treatment always sufficed, there is no disputing the fact that it will kill the eggs as well as the larvæ.

By the way, the name of the drug over here is always spelled "carbon bi-sulphide" on the labels that are put on the bottles.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Parcels Post Must Come

We are less ruled by the conventional ideas as the years roll on. We have been taught that the Constitution was sacred, and must be revered; that the Supreme Court is always right, and somehow the idea has continued to lurk about in the dark corners of our subconscious selves that what always had been always would be. But now we are waking up to the fact that the Constitution is man-made, and, when it serves him not, the thing to do is to change it to correspond with the Supreme Constitution, which is the mind of the people. And, also, we now are beginning to recognize that the Supreme Court also derives its just powers from the people, who finally are the court of last appeal.

Commerce is the moving of things from where they are plentiful to where they are scarce, and any thing—obstacle, person, company or law—that prevents things of human need from moving freely to the persons needing those things, is in the nature of a brigand demanding tribute at the hands of honorable industry.

The express companies are operating in violation of a law passed away back in 1848, which expressly prohibits private companies from carrying packages in competition with the Post-Office; yet the express companies carry thousands of packages weighing less than 4 pounds, and they have control, absolutely, of the business on parcels weighing more than 4 pounds, up to what can be profitably sent by freight.

It is time that we utilize the Post-Office Department as it is now organized to carry all packages. The work could be done with but little addition to the expense. President Taft favors parcels post and penny postage, and so does Postmaster General Hitchcock. It behooves every bee-keeper who lives where express companies and post-offices exist, to put his influence over against that of the express companies by writing his representatives and senators, asking them to support parcels post.

We may rest assured that the express companies will let their wishes be known to the legislators, and they will call attention to the taxes they pay. But just remember that the express companies have nothing to talk o along this line, for they pay practically no taxes—they rent almost everything, and make their money out of a privilege to pillage, and not from service rendered. Why, the bee-keepers of the country pay more taxes, I'll wager, than the express companies.

Now 12 cents a pound, or 16 cents a pound, doesn't sound very cheap, but we can be sure that once the express companies are eliminated from the parcel-carrying business, the rates will be lowered to almost actual cost of carrying. This reduction has been the record of the Post-Office Department. In our town here we have a beautiful white brick post-office, built fire-proof, and one that will stand a thousand years, and before it is very much older I am satisfied that the work now done by the express companies will be done much more economically by the post-office force. The equipment is there; it belongs to the people, so why not use it? If the express companies can compete with the Government, why, then, let them. But we must be sure they do not receive favors from the railroads that the Post-Office does not also receive.

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Wild Flowers and No Honey—Queen-Mating Station

Twenty miles west of Boulder, and one mile above it, is the wild-flower paradise—56 distinct varieties, all in bloom, we found within a half mile of our mountain cabin, where we are rusticating for a week. There are probably several hundred flowers in this district from the first bloom in the spring to the last. White clover grows thick in the meadow lands of the mountain valleys, and sweet clover thrives wherever it has gotten a foothold. It blooms about August 1st, and all vegetation is correspondingly late, as we are 2 miles above sea-level, only 3 miles from perpetual snow, and freezes are common till nearly the middle of July.

QUEEN-MATING STATION

Wild bees are everywhere, but as yet I have geen unable to find a honey-bee on any of the flowers. The season is so short that should a swarm get up this far, it would doubtless perish for lack of winter stores. Honey-bees would flourish here for 5 or 6 weeks during the summer, and one could have a bee-breeding station located high in the mountains, as this is, and the queens be in no danger of crossing with any neighboring undesirable drones. Just as soon as I can get to it several such experimental points are going to be established. They can easily be reached by rail, and the bees could be brought up each summer and taken back to the valley, at slight expense. No feeding would need be done during the time the bees were up here, I think. Chaff hives will be the best to use, as our nights are always quite cool. Such a place as this would be far better than trying to mate queens in confinement, I should think.

Attempts have been made to establish a breeding station for bees out on the dry plains, but the conditions are so unfavorable to the life of the bees that success has never been had with this plan. The plains are so hot and dry, and there are no flowers, or scarcely any vegetation of any kind, that the bees would do nothing, feeding having to be done all the time. Some feeding would be needed here, no doubt, but there is an abundance of pollen and some honey available, and conditions are conducive to bee-life, which is *essential* to any breeding experiments.

Right in this connection I might say that wherever the honey-bee is not found, wild bees of many kinds abound. They are more limited in range, for many of them work on but one kind of flowers.

In Boulder Canyon, 2 miles west of Boulder, sweet clover grows very thick; but few if any honey-bees visit it, while wild bees and wasps of various kinds keep up the busy hum.

◆

Comb Honey and the Section-Box

The waste in effort to get the bees to work in section honey-boxes between separators is too great to be long endured by the bee-fraternity. And still I do not think it likely that comb honey will lose its favorites. We shall find a new way of putting out comb honey, so that it will ship as safely as extracted, and can be built by the bees almost as rapidly as extracted is produced. The new way will probably be something similar to the way Nabisco wafers are put up—in tin boxes. The combs can be cut, and after most of the drip has leaked off, the combs can then be wrapped in paraffined paper, packed in the tin boxes, and crated in boxes the same as soap or any other boxed goods. I believe it is time we were working along this line, as the sooner the demand for comb honey in some such shape as I have mentioned is cultivated the sooner will our profits begin to mount. We will have overcome the bugaboos of comb-honey shipments, and getting the bees to work in the comb-honey supers.

Swarming is no problem to speak

of, either, when running for extracted honey, and this "cut comb honey" would be very similar in hive manipulation to extracted-honey production.

The Prolificness of Queens

The past spring was especially favorable to the spreading of brood, and in a good many cases eggs and young larvæ were chilled, but the continual placing of empty comb in the center of the brood-nest kept the queens busy laying, and their number of eggs laid daily steadily increased as the season advanced. A queen cannot jump into heavy egg-laying all at once, and so I think I gained much by having the queens gaining gradually, even if half or two-thirds of their eggs were lost along at first. The case of a cow giving milk is probably similar; if you dry her up, or nearly so, you cannot get her back to former milk-production by any means.

For a week or two in early spring we may have very warm, nice weather, when the queen will go to work and get right into heavy egg-laying; then it turns cold, and she is shut off. Well, my practice was different. Twice a week I went around uncapping the honey and spreading brood, and I did this regardless of the prospective cool weather. The queens did not stop laying even in the cool weather, for there was empty available comb right in the brood-nest, and the bees had uncapped honey which they could handle and place anywhere needed.

This plan might not pay everywhere, or every year in this locality, but it worked well this year. Of course, the amount of spreading of brood was determined by the size of the cluster of bees.

Dr. Miller, in Gleanings in Bee Culture, thinks few queens lay eggs that will not hatch. With Editor Root, I think he is wrong. He probably is right, speaking of his own apiary, but taking conditions here in the West, where practically no care is taken with the quality of the queens, I think a great many do not lay fertile eggs. Here it is a general practice to use cells whenever found, regardless of the quality of the bees, queen or size, and general good appearance of the cell. Most of the bee-men are too busy putting up sections, hives, and performing general apiary work, to do scientific queen-rearing, so that the queens are a nondescript lot.

When a hive is found with a bunch of cells, they are used in nuclei, and wherever the queens are manifestly inferior may be killed and a cell put in. Here in the West more dependence is placed upon the abundance of nectar than on the size and vigor of the colonies of bees. It is remarkable what yields some small clusters of bees will give, too.

BEE-KEEPING IN DIXIE

Conducted by J. J. Wilder, Cordele, Ga.

An Expert Queen-Breeder Needed

Mr. Simpson, under "Caucasian Bees," uttered a truth when he said: "We need a queen-breeding expert."

We have a lot of good queen-breeders who are sending out queens that attain a high standard of excellence, but have we any who are settled down in dead earnest, striving to produce a better bee, or a strain more suited for our condition, regardless of color, etc.? If not, this is certainly a fertile field for such a breeder.

The most of our queen-breeders have been rearing queens for the Northern trade; therefore, but little has been done towards breeding for a more suitable strain here.

Caucasian Bees

Mr. W. D. Simpson, of South Carolina, writes relative to these bees and their crosses:

> I don't think I have given these bees and their crosses a fair trial. The queens I obtained were not purely mated, and they built a lot of brace-comb and almost closed the entrance of the hives with propolis; they built a lot of drone-comb, and reared too many drones, and the crosses with the Italians were not so gentle, but they built up some faster in early spring, and those showing yellow bands did not propolize so badly.
>
> I have found what Editor E. R. Root, yourself and others have said relative to the slow breeding of the Italians in early spring, to be true in my location. Now what is the South going to do for a better bee? You seem to think that the Caucasians and their crosses will be more suitable for us.
>
> We need a queen-breeding expert here in the South to breed a bee that will suit us as well as the Italian bee does the Northern bee-keepers, and it might not take many years to accomplish this.
>
> I note that you are mixing up bees considerably, and it may be a step in the right direction. Keep it up; we don't object to a mixture, just so we get results.
>
> W. D. Simpson.

Georgia as a Bee-Country

In reply to questions by A. M. Richards, of Massachusetts, I would say: A few bee-keepers in Georgia are enjoying as great prosperity as any others in the United States, but I can't say that it is a great bee-country. If a bee-keeper is perfectly familiar with surroundings and conditions existing here, he can make a living at bee-keeping. Otherwise he can expect to succeed only slowly until he has mastered more of the situation.

Some writer on bee-culture recently struck a key-note when he said, "If you come South you will have to learn bee-keeping as it is here before you succeed."

The general facts relative to bee-keeping, such as the time required for a queen, a worker, or drone, to develop, remain the same; but when it comes to methods and conditions, it is far different. Therefore but few newcomers have ever succeeded in our borders at bee-keeping, and we can't say that it is a great bee-country.

Then, too, our average is low compared with that of the North, and more bees would have to be kept for a support, more capital invested, more labor required, etc. And summing up all the difficulties in the way, it is no great proposition, and returns only come after experience, and only then after "hard blows."

As to the best part of Georgia for bee-keeping, I would say that the Southern part might be best. But we have a lot of wild land here yet, and it would not be advisable to locate in a thickly-settled section, for the honey-flows are not as great and so frequent, because the forest is not so much protected from the fires, and the acreage of cotton is too small to give a flow.

Bee-Keeping in Dixie

I wish to give some of my experience to illustrate the conditions and possibilities of bee-keeping in Dixie. I have as poor a location as there is in this State—so poor it is that the box-hive bee-keepers are becoming a thing of the past, as the bees are dying, mostly from starvation. They have no way of knowing the needs of the bees, or of improving them as honey-gatherers, until it is too late. I have had farmers hunt me up to sell me their bees in box-hives, and say that their bees were a nuisance to them, as they did not get any honey, and the bees were so cross they stung their other stock, and they had to sell them to me so low in price, that after the bees had been transferred to frame hives, the combs in the old box, when made into beeswax, would pay for the whole outfit. The wax is all that is to be expected from a box-hive colony. Let the bees transfer the honey, if they have any, in the box-hive to the movable-frame hive. The average per colony is about 50 pounds of honey.

The demand for honey here is never supplied. It sells in the comb at 12½ cents ver pound, and extracted honey at 8½ cents, wholesale, on board the cars here.

I have several out bee-yards, in all more than 200 colonies. I do all the work myself, except packing the honey, which my wife does. I have two other businesses besides bee-keeping, but I think I will take the advice of Mr. Hutchinson and remove one of these props, and "keep more bees."

I know of nothing for a poor man here, that will pay as well as bee-keeping, taking into consideration the capital, time, and the repairs involved; but I wish to say the best bees should be secured to start with, and stock all one's bee-yards with young queens of this stock.

A neighbor bee-keeper visited me a short time ago and after he had looked over some of the colonies he said, "You must certainly have a better lcation than I have, as I have very few colonies that are equal to your poorest, in storing honey." But after he had visited several out-yards, and saw the location generally, he said, "I am convinced that it is not the location, but the *race* of bees, and the *man* or *management*," which I am sure is correct. The race of bees, and the management, are the only things that will ever revive bee-keeping in Dixie. What we need is better bee-keepers. One movable-frame hive with the proper bees and management, will give as much returns as 10 box-hive colonies. Can't we improve? JOHN W. CASH.

Bogart, Ga., June 19.

The Sectional Hive

Mr. Wilder:—Have you ever had any experience with the sectional hive? I have one I have been using for 4 seasons, made up of shallow extracting supers, and the colony in this hive has given me more surplus honey than any of the others with regular full-depth, Langstroth frames, and it swarms two or three times each year.

The brood-chamber in each hive is chock-full of honey. What can I do to give the queen more room?

Also, what kind of bees do you think best for the South? W. B. BRADLEY.

Branford, Fla.

ANS.—I have been using some sectional hives for years, but don't like them as well as I do a regular full-depth one-story hive with shallow extracting supers on top and storing supers added. The hive and super give me an ideal brood-chamber, but such arrangement will admit of no rapid manipulation.

It may be that this particular hive has the best queen. Surely it has if it is the most populous. One hive would not be a fair test, anyway. Try more. You should have a honey-extractor if you haven't more than 8 or 10 colonies of bees, and keep the honey extracted from the brood-chamber until the close of the last honey-flow, then let the bees store enough there for winter.

For best results, the outside of combs should be extracted as soon as sealed, and inserted in the middle of the brood-chamber. This will keep up bee-production, will greatly increase honey-production, and perhaps enough in one season to pay for the extractor. It might help your stock of bees if you would add some Caucasian blood. If you have black bees, add both Caucasian and Italian blood by purchasing a few queens of each variety.

Apiarian News and Reports

Mr. Edward Geesa, of Idaho, has recently located on the Suwanee river in Florida, engaging exclusively in bee-keeping. He is located near the mouth of the river, and will operate apiaries along its banks and on the immediate islands along the Gulf of Mexico.

Mr. A. S. Osha, also of Idaho, has recently located near Minopolis, Ala., in the Black regions where the clovers are abundant, and will engage exclusively in bee-keeping.

Mr. Frank Bradburn, of Indiana, will soon reach Dixie, bee-prospecting.

A SMALL BUNCH OF BRIEF REPORTS.

My bees are rolling in nectar from the cotton-fields. CLARENCE ELLISON.

Belton, S. C.

The flow from cotton is on, and is heavy. JOHN W. CASH.

Bogart, Ga., July 30.

The flow from partridge-peas is not very heavy, owing to unfavorable weather conditions. If the continued rains will stay for a few days, we may get an average crop. R. W. HERLONG.

Ft. White, Fla.

Bees have not done much in this immediate section this season.

Talking Rock, Ga. T. S. HALL.

My bees never did much in the spring, but are doing well on the flow from cotton. W. D. SIMPSON.

Anderson, S. C.

I learn that the flow from clover in Alabama was very good this season, and the flow from cotton has been far better than any previous season in Georgia, and more than an average crop will be stored in the cotton-belt.

SOUTHERN BEEDOM

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Space Between Old Combs

Will the discussions on the question as to whether old combs ever get so old that the cells will be too small for rearing brood in them satisfactorily come to an end? I think not, so long as the question is not settled, and from the stand taken by some of the veterans, both pro and con, this is not a settled question, by any means.

More than a year ago I took issue with Dr. Miller, in "Gleanings," about the size of the cells in one of the oldest combs that I had in my home apiary. The way I discovered it was by finding some of the bees so small that they were *only one-half as large as the normal-size bees of the colony*. An examination of the combs revealed the fact that the cells of the old and much-used brood-comb had become so small and short in depth that the bees that were hatching from them were only slightly larger than some of the species of our medium-size flies. So marked was the contrast between the normal-size bees and the dwarfs that it could hardly be possible that they should all be the product of the same mother. The dwarfs were the neatest ltttle bees I have ever seen—so much smaller than the others, and yet as perfect as their larger sisters. They were not abnormal or mis-shaped in size or shape in any way.

I wish the readers to understand that I am not exaggerating in the least, as some might suppose. I have made some drawings of the cells of a part of the comb from which these small bees have hatched, but on account of lack of time I have never finished them in ink. As soon as I can do so I will have them prepared for publication.

I have gone further. After making cross-sections of the comb and dissolving the hard excrementitious, matter which held the cocoons together, in alcohol, careful dissections revealed an accumulation of as many as 20 cocoons in a single cell. The increase in thickness of the bottom of the cell was from one-sixteenth to seven-thirty seconds of an inch from one side of the septum of the center of the comb. Besides this, the cell-walls were much smaller near the bottom of the cells, tapering to a thinner wall toward the mouth or opening of the cells. It becomes apparent at once, therefore, that the cavities in the cells must have become *very much smaller* with the age of the comb, and hence the resultant small-sized bees that hatched from these cells.

If we figure that the combs are spaced the regular width—1⅜ from center to center, which is strictly adhered to in our apiaries since self-spacing frames are used—there is little chance for the bees to elongate the cells to any great extent, as some predict the bees will do. The case in question is such a conclusive one with me that I know that the bees can not do this with regular-spaced combs. And the argument that they would do so if the combs were spaced farther apart does not count for anything, for the simple reason that I do not do things that way, *i. e.*, hunt up the old combs and space them farther apart for this special purpose. Especially is this true if I use only self-spacing frames, as I do in all my apiaries.

It is difficult to estimate how old this comb was. It was one that was purchased with some of my first bees in 1893, or 18 years ago. The previous owner began bee-keeping in the early '80's, but I do not know when the bees first built out this particular comb. It was built in one of the very early types of Hoffman self-spacing frames, however, with the top-bars wider at their ends. The hives from which the bees were taken at that time were very old and dilapidated—the reason why I did not purchase them with the bees on the combs.

This is such strong evidence, however, that brood-combs may become too old for brood-rearing, and that the cells will become shorter considerably by the accumulation of the cocoons and the excrementitious matter, which is not removed entirely after the young bees have hatched from the cells. The cell-walls are also made smaller by the increased number of the cell-wall linings of cocoons, although the decrease is not so great toward the mouth of the cells. And as the bees are not able to elongate the cells to any great extent when the combs are spaced the regular way, the result is smaller size bees if they are reared in these cells.

CONTRIBUTED ARTICLES~

Disposing of the Honey Crop

BY C. P. DADANT.

The honey crop appears to be small throughout the country, and some readers may think it is unnecessary to give advice as to the disposal of it under such circumstances. It is, however, at such times as this that the apiarist ought to realize the biggest possible price from his product. He cannot succeeded in doing this unless he goes as it in a practical way.

Discussions at the convention of the Chicago-Northwestern Bee-Keepers' Association last December demonstrate the fact that in many cases the bee-keeper gets only half of the price at which the honey is retailed by the middleman, and in some cases only one-third of that amount. Many articles, especially luxuries, cost as much to retail out as to produce. Even fruit, when retailed, has often brought to the two or three persons who handle it, more than the total that the producer gets. We raise grapes here in large quantities. We have often sold grapes at 1½ to 2 cents per pound at wholesale, which retailed in our own vicinity at 4 cents, when we were too busy to sell them ourselves.

But grapes and other fruit are perishable goods. When they are once picked, they must be sold. Not so with honey. You may store away your honey and sell it at leisure. Moreover, it sells better late in the season, about the holidays, than just after the crop, for sweets are used more especially in cold weather. So there is no hurry to sell our honey, unless we want to ship it to a large center to be parceled out by others.

Shipping our crop away, instead of retailing it in our vicinity, is responsible for the low prices at which the honey often sells. The man who has ten thousand pounds of honey *must* ship some of it away. But the man who produces a few hundred pounds each year is the one who gluts the markets, because his name is "legion," and too often he makes not the least attempt at finding customers among the consumers.

Five hundred pounds of honey put up in retailing packages—jars or cans—after changing hands two or three times, must sell at about 16 or 18, or perhaps 20 cents per pound, in order to be sufficiently profitable to each person. This augmentation of value—from the producer's original price of 8 to 10 cents—has a very positive tendency to decrease the sales. Consumers who would readily pay 12 to 15 cents per pound for a choice article may pass over it at a glance when the increase is so large. Honey, being a sweet, must be to a certain extent controlled in its price by the value of other sweets. Our action in putting the crop of honey in the hands of the commission men, who must in their turn sell to wholesalers who will re-ship it to our neighboring grocer, tends to reduce the sales by reason of the increase in cost.

A housekeeper who hesitates to put 20 cents in a glass jar containing a single pound of honey, might readily buy from the producer a 10-pound can at a little over half the price per pound—say 12 cents. The producer who gets 8 cents per pound, in bulk, for his honey, shipped to a large city, would net over 10 cents per pound for the same honey sold to his neighbor, and the amount consumed ultimately would probably be doubled, thus increasing the demand largely, and creating a taste for the product instead of canceling it, or frightening it away.

As I have said before, the honey which we produce does not need to be disposed of at once. If we are too busy in August and September to offer our crop, it is as well, for the best selling time is around the holidays. When the bees are put away comfortably, with plenty of stores, it is the proper time to offer our crop.

You will say that you are not a peddler, and do not wish to run around with your goods. It is not at all necessary to peddle. Carrying honey around in order to sell it is the worst possible method. We sell by sample, always, and never haul honey about unless it is already sold. There is all the difference in the world between carrying cans of honey about, trying to get rid of them, and taking an order from the consumer while delivering goods already sold. Nothing is more likely to create a demand than to be able to answer, when a question is asked about the price of the goods you are hauling: "These goods are sold on orders, but I can bring you some of exactly the same quality, and at the same price, if you desire it. I produce this honey myself, and guarantee it positively as of best quality, and entirely pure."

Another thing which we must all learn to do is to put a price on our product, instead of going to the corner grocery and ask them how much they will pay. The grocer is by nature always apprehensive when offered a product, the price of which the grocer is not able to set. He has so often bought eggs or butter at a certain price from one man, and succeeded in getting the next lot for 2 or 3 cents less that he is, especially with as rare a product as honey, likely to suspect that to-morrow some one may come who will be willing to sell at any price he may offer. It is those who do not know what to expect for their honey who will kill prices. If you have posted yourself on the conditions of the crop elsewhere, you must be able to figure what is a fair, sufficient price for your goods. Set that price, and do not deviate from it. Place a small margin between the price to your grocer and the price to the actual consumer, allowing the grocer from 10 to 20 percent between the two. Then hold to these prices. The grocer may laugh at you the first year, when you set your price, but if you persevere, he will soon find out that he has to come to you, because your prices will be less than those of the wholesale houses who buy from the commission merchant.

After two or three years your grocer will have a *real regard* for your price. He will be guided by it. By and by, if you continue as I have done, for years, the grocer will order honey from you, if he knows he can trust you, without any discussion as to prices. He will only ask what you expect to get at retail, and will be ruled by this price. If he finds a cheap lot, from some bee-keeper who does not read the American Bee Journal, and who does not know what the price is, your grocer will be very careful to keep that bargain to himself, knowing full well by that time that if he has succeeded in getting ahead of somebody, that does not constitute the real prices.

Above all things, do not imagine that your selling at home will injure the business of the jobber or of the commission man. They will find plenty of honey to handle, and your keeping away from the big market will only cause a more lively market, better sales in the cities, and better returns all around, for you will have created a demand which otherwise would have been killed.

I only wish that I could convince every one of my readers of the truth of this assertion, that *his home sales, at a more remunerative price than he can get otherwise, will positively raise prices.* What can one man do to raise prices? Oh, so little! Yes, but it is the single voters who carry the elections to the one party or to the other, and if each of us stayed at home, under the plea that our one vote will make no difference in the general result, where would the Republic go?

Conclusion: If you want to see honey prices more firm, try home sales; not one time, but every year, regularly, with a sufficient addition to the price you would secure to pay you amply for the extra labor, and you will be astonished, in a few years, with the result achieved. This is not idle talk; it is my own experience, acquired from a practice of considerably over 40 years.

Hamilton, Ill.

Bee-Paralysis—A Queer Disease

BY G. M. DOOLITTLE.

"I see by reading the columns of the American Bee Journal that you sometimes answer questions for those who do not know very much about bees. Now I want some light regarding what ails my bees. During the early part of the season they were prosperous, but as the harvest of nectar arrived a part of the colonies seemed to be ailing from something which I have never seen before. At some of the hives many bees seemed to be bloated, and would shake as if they had the ague, while quite a few of them seemed to be devoid of any hair, being smooth and shiny. Then other bees seemed to be pulling at them, and would drag them to the edge of the alighting-board and dump them off, until in front of some of the hives the bees lie dead in heaps. There seems to be the usual quantity of brood in these hives, but the bees are apparently dying off faster than they are supplanted by the emerging brood. The colonies thus affected have not given half the crop of honey that have those not showing these symptoms. Can you tell the readers of the American Bee Journal what the trouble is, and what to do for it?"—CORRESPONDENT.

From the description given, I think there is little doubt but what these bees have what was termed 30 to 35 years ago "The Nameless Bee-Disease," but what has been known since then as "Bee-Paralysis."

This disease was quite common in the latter eighties, and for a time it made rapid strides till there were very few apiarists who were not familiar with it, either in their own apiary or in that of some one near them; during the nineties very many apiaries were nearly destroyed through so many bees dying off that there were not enough bees left for winter, it being much more prevalent and disastrous in the South than here at the North. What caused this trouble was the great question in the minds of all who had it in their apiaries, for where the cause of any disease can be fully understood, a remedy is generally soon found. But unless I have been careless in my reading, no one seems to be sure that he knows what the cause is. Some were quite positive for a while that they had the secret, but as the years rolled by, time proved that such were only ideas or guesses in the matter, and I doubt whether there is any more known to-day as to the cause of this plague of the bees than was known when it was first called the "Nameless Bee-Disease."

But I am pleased to record that, since the ushering in of the Twentieth Century, the disease has been on the wane, not only as to the number of colonies having it, but those affected by it have it so lightly that we hear very little of the matter at this time. As to what to do for it is a matter very largely of guesswork. When the disease first made its appearance, some of the "knowing ones" told us the whole trouble came from not letting the bees have access to salt, and from this it was said that, if a strong brine was made and sprinkled over the bees and combs, it was a certain cure. I jotted this down in my reference book, and, when, in the early nineties, I had 2 colonies that were affected by it, I tried this remedy. Meantime others had been trying it, but it was soon apparent that it was of no use as a general remedy. As occasionally a colony would quite suddenly get well of itself, it so came about that one which would naturally do so when treated with the brine, became free from the disease a little later, when, of course, it was rushed into print, or told "on the housetop," about the wonderful cure with a simple brine, like that used for preserving meat!

Soon after the brine cure, came that of giving such diseased colonies a young prolific queen. The argument along this line was, that from some reason the mother queen had contracted the disease, and therefore the eggs which she laid contained germs, which later on developed sufficiently in her progeny to cause the trouble. Therefore, if the old queen was killed and a young, vigorous one given in her place, then, as soon as the bees emerging from the eggs of the new queen came on the stage of action, the disease would begin to grow less and less; and when all the bees from the original queen had died, the colony would be free from the disease. As this looked reasonable, it was tried more largely than any other remedy; but after a thorough trial of the same by hundreds, if not by thousands, it was found that, in the majority of cases, such change had no effect whatever.

One year, in July, I found 8 or 10 of my colonies in quite a similar condition to those described by our correspondent, although only one colony was extremely bad. I gave this colony a new queen, after killing the old one, and as fall drew on, it got better, and I was quite enthusiastic in the matter, although I had noticed that diseased colonies which lived through till fall, generally got better at that time.

The next year I had a colony come down with this disease still earlier in the season (in June, I think). This colony was the worst of any I had ever known, and to test the matter fully, I took their queen away and gave her to a healthy colony, giving the one from the healthy colony to the diseased one. The result this time was that the colony to which I gave the diseased queen went right on in a prosperous condition, with no signs of the disease, while the diseased colony showed no abatement of the disease, becoming so weakened in the late summer that it was united with another colony, the united colony never showing any signs of the disease afterward.

The next year, when the bees were put from the cellar, another colony was set on the stand where this worst one I ever had, had been the year before, and, to my surprise, this colony took the disease in early July, and, for a time, every colony placed on this stand took the disease during the summer. This led me to believe that location had something to do with the matter, or that the trouble came from some infection that arose from the ground in certain places. But, after a few years the colonies put on this stand were all right, and one near the opposite side of the apiary contracted the disease.

From all of these different experiences I was forced to the conclusion that nothing definite is known about this trouble. Therefore, so far as I know, the "what to do for it" still remains an unanswered problem.

I have seen very little of this trouble since the nineties went out. One colony had a few bees diseased, with swollen, shiny abdomens, and shaking motions, in 1900, and that is the last I have seen anything of it in my apiaries. There was a time when bee-keepers quite generally believed that this disease would ruin our pursuit; but as I have heard of, or seen, very little in print regarding the matter for some years now, I think we have little need to worry. It is well, however, to bear in mind that such a disease exists, so that we will not be taken unawares should it visit our apiary.

Borodino, N. Y.

Bee-Keeping in Jamaica

BY W. C. MORRIS.

Apiculture is carried on in an extensive scale in Jamaica. D. Foster, at Old Harbor, has some 2000 colonies, and F. A. Hooper has over 1000 in 5 yards, and the American Bee-Products Co., a corporation of New York City, has started their first yard, and expect to increase to 50,000 colonies. Most of the bee-keepers of the Island carry on the business in a careless way, using kerosene cases for hives, supers, covers and bottoms. These cases are the same as our two 5-gallon-can boxes, made of ¼-inch stuff, and the rains and excessive heat of the sun warp and twist them until there is little or no protection for the bees; and if they get a 50-pound average, they consider they are doing well. They receive about 4 cents a pound for their honey.

With bees properly housed and looked after as they are in Canada and the United States, there is no reason why an average of 200 pounds or more can not be had.

The bee-supply business in Jamaica consists chiefly of selling frames.

There are several up-to-date apiarists in the Island, and while I was there one of them was on a pleasure trip to Europe, which proves there is big money in bees in Jamaica, if properly taken care of.

Mr. Hooper is one of the oldest bee-keepers on the Island, and claims to be the one who introduced Italians into

No. 1.—Home of Mr. Hooper, in Kingston, Jamaica.

No. 2.—Barbrican Apiary of Mr. Hooper.

No. 3.—Native Women of Jamaica.

the Island. He has written a book on "Bee-Keeping in Jamaica."

Number 1 shown here is a picture of his home, with Mr. Hooper and his two daughters and grand-daughter on the porch.

Number 2 is a picture of his Barbrican yard, and his son.

Number 3 shows some of the native women on their way home from market. This help can be had for making comb foundation, putting together and wiring frames, and help in extracting, for 18 cents a day. Men receive for piece work from one to one and one-half shillings (25 to 30 cents) a day, but they are not dependable help; but the women are good workers, and in most instances the success of the home depends upon their efforts.

Jamaica is free from bee-disease, with the exception of some paralysis. No foul brood is in the Island, and they allow no bees to be brought in, and queens are transferred to other cages on the boat they come over in, by the bee-inspector of the Island, Mr. C. N. Eddowes, one of the most advanced apiarists on the Island. No charge is made; it is not a question of graft, but of protection.

The Department of Agriculture has a class in apiculture at the Hope Gardens, under the direction of Mr. Eddowes.

Most of the honey produced is extracted, and is exported to England and Germany, and the producer receives 60 cents a gallon. The principal source is the flowers of hardwood trees, and the largest crop is from logwood, which is a water-white honey, and resembles in flavor and color our clover. It is also of good body.

A temperature of 60 degrees is about as low as the thermometer reaches in the lowlands; you can get it as cool as 40 degrees in the mountains in winter.

There are big possibilities for capital in Jamaica in bees, sugar, bananas, pine-apples, coffee, and all kinds of tropical fruit. A steamer leaves the Island nearly every day for the United States. There are three companies—Hamburgh - American, Royal Packet, and United Fruit Co. There are cheap freight-rates—about 50 cents for 100 pounds, for 5 days' trip.

The scenic beauty of Jamaica is unsurpassed anywhere.

A Few Apiarian Suggestions

Read at the Northern Michigan Convention

BY E. D. TOWNSEND.

It is with a great pleasure, that I have this opportunity of meeting with you again at our annual convention, and without more preliminary, I will suggest some things that can well be taken up at this, our annual meeting, for discussion and consideration.

Bee-Disease Legislation.

The first I will touch upon, and is likely the most important at this particular time, is some bee-disease legislation we want and are trying to get passed during the present term of our Legislature.

It is a fact that 37 counties in lower Michigan have foul brood within their borders; 3 have European, and

I understand all 37 have American foul brood. Then there are the counties not reported, so I think it would be a conservative estimate to say there is foul brood in three-fourths of the counties in lower Michigan.

As you all well know, we have but $500 per annum and one inspector of apiaries, at our service, as the law now allows. It is evident that foul brood has the start of us, under the present condition of things. In our new Bill, that we hope to have made into a law this winter, we are asking for $1500, and the privilege of having several inspectors of apiaries appointed. Now, if we succeed in getting this Bill passed, it will be because we all urge our senators and representatives now in Lansing, to support this Bill, and if there is a single bee-keeper in attendance who has not written his representative, in regard to this bill, he, or she, is earnestly requested to do so immediately, as the Bill is likely to be voted upon in the near future. I have a list with me of the representatives of each county, and if you have not already written, and do not know just how to address your letter, this circular will explain.

The Sale of Honey.

Another point I wish to touch upon is the sale of honey. How many present sell your honey to some one who re-sells in original packages? To illustrate: Wouldn't you feel rather cheap, were you to sell your extracted honey in 60-pound cans—say, to Jones, across the way from you—for say 8 cents per pound, and find out a few days later that Jones had re-sold this same honey for 9 cents a pound, and had hardly turned his hand over, or in other words, had exerted but little to make a dollar per hundred pounds on your whole crop? If the crop was but 4,000 pounds, he realized the handsome profit of $40. If you could learn, by attending this convention, how to have that $40—not during one season, or on one crop, but for always—wouldn't you feel well paid for the little time and expense this convention-trip has cost you? I think you would.

I have practiced the saving of this cent a pound on my crop of extracted honey for years, and it is a wonder to me why so many do not take advantage of this way of selling, that I am about to explain. It's very simple: *Just sell to Jones' customer.* Simple, isn't it! Still, many will be tempted to job their honey in a lump, at a less price, and paying the freight in most cases, for the jobber is "on his job," and usually includes the "freight paid," when he quotes you a price.

Lest I should forget it, I would say here, that if a dealer quotes me a price on my honey—a privilege he has no right to—I ignore the offer and go ahead and quote him my price, and it is always f. o. b. my shipping-point.

To work this plan successfully, one will need some sample mailing blocks, which all bee-supply dealers furnish. Then one will have to do a little advertising—not so very much, though; and this brings me to the main point:

Advertising the Honey Crop.

This cannot be done better than to pay one dollar to join the Michigan State Bee-Keepers' Association. This Association issues a booklet, annually, giving the names of all its members and the kind of honey the individual produces. Then this booklet is advertised through all three of the bee-papers, and in this way each member is brought in contact with many dealers and bottlers. Then our secretary has a list of over 100 dealers in honey, and this list is free to the members. And last, but not least, along in July, an Advisory Board of three members look up the prospects, or, in other words, estimate about what the honey crop will be, and decide upon the price our members ought not sell *under*. Notice there is no restriction as to how much more you can get for your honey, but it gives the members a very good idea of the minimum price to ask for their honey crop. This feature of the State Association, is, in itself, sufficient to repay one for the dollar it costs annually.

It would be a great pleasure to me to see every one of those present, when renewing your annual dues to *this* Association, to include a dollar for a year's membership in the State Association. You are all cordially invited to become members of the State Association.

Something About Bee-Hives.

I can hardly resist the temptation, before closing, to say something about bee-hives; and if you will bear with me for a few minutes longer, I will satisfy that desire. In the first place, I would earnestly advise that no one should try to invent a wonderful bee-hive until he, or she, has been in the business for at least 10 years. I know this is a long time to wait, but I assure you that, after an experience of 36 years in the bee-yard, it will not pay you to try to invent a hive. Don't do it. How many times one is tempted to invent something along the line of a hive, or contrivance pertaining to our beloved pursuit, but to find out later that this same thing has been tried out and discarded long ago! Then we realize that we have lost time and money, for no one wants odd-size hives and contraptions.

I would advise all to adopt the Langstroth frame. I would also advise you to use 10 of these frames in a hive, for either comb or extracted honey production. If you cannot make yourself believe this is the best size of hive, use more or less number of these same frames, then, any time you may decide that your hive is either too large or small, use more or less frames, and you will never regret it.

There is no other hive used at the present time that affords so many good points as the Langstroth hive. The brood-chamber is not so shallow but the bees breed up in it very well; then the frame is not so deep but that it works well as an upper story, to extract from. A great point in adopting a hive or frame is to have it *standard*. If one wants to buy or sell bees, or in the case of supplies, it is much better and more convenient if the frames are of the Langstroth dimensions.

After saying all the foregoing, I'm tempted again. This time I want to say that it matters but little about the hive, any way, only as far as it is convenient to have hives all alike for convenience in handling. It has often been said, and it is true, that bees will store just as much honey in a sugar-barrel as in the best hive.

Along this line I would refer you to the Manleys, of Sanilac County. Each spring they buy up all the bees they can, "in any old kind of hive," and harvest per colony about 100 pounds of extracted honey, per annum, from them. Does any one think they could do better with the very latest, well-painted hive? I think they would not.

It's the man, not the hive, that produces tons of honey, annually. "You cannot know too much about your business" is as true today as ever. If you are not getting good, fair crops of honey—as good, or better than your neighbor, who is in close proximity to you—do not lay it to your hives or location. In other words, use your brains; they will help you out, take my word for it. Don't invent a new hive, for it won't help you any.

Our Current Bee-Literature

This brings forth the subject of reading matter. We have three good papers. Every progressive bee-keeper should subscribe for all of them. The American Bee Journal is especially fitted for the beginner; also for convention reports and general reading matter. The Bee-Keepers' Review is more particularly adapted to the specialist or more advanced bee-keeper, while Gleanings in Bee-Culture takes the middle ground. It will be seen that it is necessary to take them all if one is to keep well informed along all lines. I recommend that all of you who do not now take these 3 bee-papers, subscribe for them, for it will pay you well.

The National Association.

I realize that I am tiring you, but there is just one more matter to which I would call your attention, and that is the National Bee-Keepers' Association. It deserves our support. It is doing considerable for us, and is now considering the doing of *much more*. In the near future the members of the National will probably have an opportunity to vote upon an amendment to its Constitution. This amendment will provide that State or local association may become auxiliaries of the National. I had thought along the line of several associations in the State, something like New York State. If we had say 3 conventions in this State, their several dates could conform so that we could likely have speakers from abroad, or attractions, so that all would be interested, or more so than at present. Whether this new move would help us, or we *help* the National, I cannot say, but likely the benefit would be mutual.

I hope this association will join the National, in a body—this year, especially—as it would be to our advantage should the suggested feature of the National carry.

Remus, Mich.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Different Kinds of Buckwheat

Is there any difference in buckwheat? I have planted it twice in my garden for a cover crop after early vegetables had grown, so that my bees would have something to work on late. It blossomed fine both times, but has no sweet smell whatever, and the bees do not work on it. I remember when I was a boy up in Wisconsin, we could smell a buckwheat field a mile, and the bees were crazy after it.

ILLINOIS.

ANSWER.—Yes, there are different kinds of buckwheat. The Japanese was boomed greatly with its large grains, but nowadays it seems to have fallen into disrepute. The Silver-hull is in good repute, and perhaps there is no kind better for the bees than just plain buckwheat. Like enough, however, the trouble in your case is not with the kind. Buckwheat does not always yield nectar, and somehow it seems to be less reliable than in former years, but that may be only a notion. The locality, too, may have something to do in the case. Some soils seem to be just right and others not.

Growing Sweet Clover

1. Please give me directions for growing sweet clover.

2. I have 40 acres of rocky land. I have plenty of water to irrigate the land in the winter season, but would not have much to spare in summer. Does the sweet clover require much water?

3. How many pounds of seed will it take to the acre? Will it make as much or more than alfalfa seed?

NEW MEXICO.

ANSWERS.—1. It needs about the same cultivation as alfalfa, although here it seems to do well on the hardest kind of ground on the roadside, where the seed is tramped in. In soft and nicely prepared ground it kills out badly in winter from heaving. It may be that it would not do so with you.

2. Like all other plants, it must have moisture, but will grow with perhaps less than most other plants.

3. Use about the same amount as of alfalfa. Indeed, if you should by mistake sow sweet clover in place of alfalfa, you might hardly know the difference the first year, but the second year there is much difference in appearance. Unlike alfalfa, sweet clover dies root and branch in or before the second winter.

Double 8-Frame Hives

I am using the 8-frame hive with supers the same size as the hive for extracted honey. When I put on the supers I took one frame out of the brood-nest and put in the super to get them to start in it. This plan worked fine as far as getting them to work. But what did the queen do? She just made the whole business into a brood-nest. How would it be to get queens for those supers, and take them away and make them into brood-chambers? I would like a good stock of bees for another season. Would I need to take them away some distance to prevent them from coming back to the same hive?

NEW MEXICO.

ANSWER.—Yes, you can make a new colony, and without taking the bees far away. If you do nothing but to move the super to a new place 10 feet away, or farther, you may have good success. But it is somewhat a matter of chance as to the kind of queen you will have. By taking a little pains you can be more sure of having a good queen. The best kind of queen is not reared in a weak, discouraged colony. When you move that super to a new place, all the field-bees will return to the old colony, and if the queen is left in the old hive the bees in the super will not be in the best heart to rear a queen. When you move the super to the new stand, if you crowd grass or green leaves into the entrance so that no bees can return for a day or two, the super will not be so much depleted of bees. You may take a still better course. See that the queen is put on the new stand. That will leave the part on the old stand the queenless one, with abundance of bees and honey coming in, and they will be in good heart to rear a queen. If you leave them without any further attention, a swarm may issue in 12 days or so, and if you are anxious for increase that will be all right, but there is some danger that the bees will be too weak for winter in one of the hives. If you do not want them to swarm, 10 days after the division let the two hives swap places. The bees will do the rest.

European Foul Brood—Carniolan Bees and Foul Brood

1. Black or European foul brood is in every apiary in my locality, and as we never had it before, we thought it chilled brood, on account of the cold, backward spring, and more than 50 percent of the bees were lost. We are now making a concentrated effort to eradicate the disease by Dr. Miller's plan. We would like to know about his latest experience with this disease.

2. I am requeening my entire apiary with Carniolan queens, as I have come to the conclusion that the most prolific bees are the most resistant to foul brood, and in this I believe I am backed up by Mr. Ralph Benton. How about it?

CALIFORNIA.

ANSWERS.—1. You will find this year's experience given on another page of this number.

2. There is a very general belief that the introduction of pure Italian blood is an important step toward the eradication of European foul brood and some may think the same of Carniolans. It may be that there is something about Italians or some other blood through which it comes to pass that if two colonies side by side are of equal energy, one of them being of pure Italian blood and the other mostly black, the one of pure Italian blood will be the more nearly immune to foul brood. But I doubt it. I think it is true that, as a general rule, Italians will fight foul brood better than blacks, not because they are Italians, but because they are more energetic than the others. So I suspect it will be found that the most energetic bees, no matter what the kind, will be the ones that will do the most toward keeping down foul brood. I do not remember seeing prolificness claimed as a thing to help against foul brood. Yet prolificness helps toward it in one respect, that it helps to keep strong colonies, and it is very important with European foul brood that colonies be strong.

Stores for Winter—Extracting-Supers

1. In preparing bees for winter, would it be best to leave the hive full of honey, or leave some empty combs for brood?

2. Do deep hive-bodies do as well as supers

TEXAS.

ANSWERS.—1. Don't you worry about room for brood. The best you can do at getting the brood-chamber filled with honey, no doubt there will be by spring plenty of room for brood, and the bees need no room for brood late in the fall. Some, however, think it better for them to have some empty cells to cluster on in winter, but they will have these emptied out in good time.

2. As well as supers for what? Perhaps you mean for extracting purposes. There is very little difference between having shallow frames for extracting, and having them the same as the frames in the brood-chamber.

Empty Combs for Swarms—Sowing Sweet Clover Seed

1. Do you consider it all right to give empty comb to a newly-hived swarm?

2. Will the queen start laying in empty comb when given the new swarm?

3. I have 2 or 3 colonies which have not made any headway, on account of the dry spell. Do you think it is all right to give them combs with honey and some empty combs?

4. What time of the year do you think is best to sow sweet clover?

IOWA.

ANSWERS.—1. Yes.

2. Yes, if the combs are in good condition she will begin laying sooner than if empty frames or only foundation are given. If the combs are in such bad condition that it takes the bees a good while to clean up, she may be slower at laying than if empty frames were given.

3. I'm not sure that I see just what you are driving at in your third question, but in any case it can hardly be wrong to give such combs to colonies that are doing little. It may be that you want the combs taken care of; and there is nothing better than to give them to the bees. Or, your scheme may be to put them on the hives ready to be filled with honey if a good fall flow comes, and that would be all right.

4. Almost any time will do, but perhaps there is no better time than in the spring, at the time when farmers sow other clover-seed.

Clogged Brood-Chambers, and No Super-Work

"Why don't bees go into supers?" Brood-chambers are clogged with brood and honey, and "nothing doing" in the supers. Advice given is to uncap the honey in the brood-chamber. Most of the sections have bait-comb in them. I have no uncapper, so I have run a hook over the capped honey and considerably disturbed it. Now, how about being as sure as possible that in these hives with clogging-up brood-frames (with honey) there will be enough bees growing in September or August so as to have the colonies winter all right? Is there such trouble in producing extracted honey? What would I better do? PENNSYLVANIA.

ANSWER.—Running a hook over the sealed surface ought to have somewhat the same effect as uncapping, but is probably not so good. If you have no regular uncapping-knife, a common butcher-knife will do fairly good work. When the surface has merely been scratched I have known the bees to repair the capping, not taking up any of the honey. But if the knife cuts down to the honey, they are bound to take up some of the honey before they can do anything at repairing the capping, and if everything is full below they are to a certain extent compelled to deposit the honey above.

If a good fall flow comes, that may start an increase of brood-rearing, and the bees may empty some of the honey from the brood-chamber into the super. If no fall flow comes, there is danger, as you suggest, that brood-rearing will be so limited that the colony will not be so strong for winter. Yet there is this crumb of comfort in the case, that if there is nothing for the bees to do in the field they will not grow old so rapidly, and will not die off so fast, so that, after all, they may not be so very weak for winter.

With extracting-combs there is less inclination to cram the brood-chamber, yet if the bait-sections be as fully drawn out as the extracting-combs the difference should be very little, unless it be that extracting-combs that have been used as brood-combs have greater attraction for the bees than a comb that has never had anything but honey in it.

Bees Bothering Watering-Trough—Insuring Bees—Amount of Stores for Winter

1. We have an apiary where an irrigating ditch runs right along in front of the hives, but the bees go over to our neighbor's, about 80 rods away, and get water from their watering-trough, and they annoy them very much as the stock can hardly get any water to drink on account of the bees. What could we do to help out our neighbor?

2. Is there any fire insurance company that will insure bees in Arizona? We use brush sheds for shade.

3. How many frames of honey of the Hoffman size should I leave in the upper super, to winter on? I did not take out any honey below this year. ARIZONA.

ANSWERS.—1. When the bees have formed the habit of going to a certain place for water, it is a very hard thing to get them to change to some other place. If the trough is not too large, it may be covered up by boards, sheets, or otherwise, opening it only at certain times in the day to let the stock drink. After a few days the bees will give it up. Possibly you may be able to make the place offensive for bees while still all right for the four-footers. Put the carbolic acid or kerosene on the edges of the trough where the bees stand to get the water. Of course there is the danger that in doing this you will get some of the stuff in the water, so the stock will not drink it.

As in so many other things, prevention is better than cure. In the spring, when bees first begin to get water, do all you can to prevent their getting a start in the wrong place, and to start them in the right place. In a sheltered place where the sun will keep it warm, put a tub or pail of water, throw over it some cork-chips such as grocers get as packing in kegs of grapes, and you will have a watering-place where no bees will drown, and all you will need to do will be to fill up occasionally with water. Once started there, they will be likely to continue.

One would be likely to think the bees would prefer the near-by irrigating ditch to the water-trough farther away. But bees do not object to a considerable distance, and it is possible that the trough gives better footing for the bees, and that the water in it is warmer than in the ditch.

2. I don't know. Perhaps some of your local insurance agents can tell you.

3. If I understand you correctly, you want to know how mch honey you should leave above *besides* what is in the lower story. There is no need to have any above. There is room in the brood-chamber for all the stores needed for winter. There should be about 30 pounds of honey in the brood-chamber for outdoor wintering, and 20 to 25 pounds for cellaring. In a well-filled brood-comb you will have 5 or 6 pounds of honey.

A Beginner's Questions

1. Is it necessary to examine the bees every week or oftener, taking out every frame (or just one or two), to see how they are doing?

2. If I find a great amount of drone-comb and cut some of it out, will the bees fill up the space with worker-brood?

3. Should the wax and propolis between the frames be taken off every time the hives are examined?

4. If a colony is preparing to swarm, will splitting it up, taking the queen and half the bees and brood-frames away, leaving the other half with one or two queen-cells on the old stand (filling both halves with frames with full sheets of foundation), prevent swarming, and be as successful?

5. Do bees "lay off" work a week before swarming and do nothing but eat honey? If so, would I save this by the above method?

6. What is "green" or "unripe" honey? Is not honey good to eat as soon as it is capped over?

7. Is it a good idea to arrange the hives in a row on a plank facing the south?

8. Should a colony be let alone as much as possible when it is storing honey? IOWA.

1. No. On the contrary, disturbing them with no object in view except curiosity to see how they are getting along is at least to a slight extent objectionable, as it hinders their work. But if one has some special object in view, there may be enough gained greatly to overbalance all the harm.

2. Generally the vacant space will be filled again with drone-comb, especially if there be no other drone-comb in the hive. If, however, the drone-comb be cut out at a time when a young queen has just begun to lay, worker-comb is likely to be built. Or, if the colony be weak, worker-comb will be built. If you cut out drone-comb you can put in the hole a patch of worker-comb or of worker-foundation.

3. No, you are doing unusually well if you attend to it once a year.

4. If there is more than one queen-cell left on the old stand you will be likely to have a swarm when the first young queen emerges. Leave only one cell; or, perhaps better still, leave the old queen on the old stand where most of the bees will be, killing all queen-cells on that stand, and put the other hive with most of the brood on a new stand.

5. They take no such vacation as you suggest. There may be a let-up for some hours, and you may see bees laden with pollen among the swarming bees.

6. Green or unripe honey is that which has not been in the hive long enough to become sufficiently evaporated. Generally it is sufficiently ripened when sealed, but there are exceptions. Fortunately the exceptions are rare.

7. Depends upon circumstances. If there is no need to economize room, it is better not to have more than 2 colonies on the same stand.

8. Yes, and at all times, unless there be some good reason for disturbing them.

Italianizing—Swarming—Backward Season

1. About July 12th, I determined to Italianize a colony of hybrids. I purchased a valuable queen, made the hive queenless, waited two days for them to start queen-cells, then I destroyed all cells and caged the queen. (To be sure that I had destroyed all cells, I shook the bees from each frame, so I could get a better view.) In due time they liberated her, and my being "Johnny-on-the-spot" no doubt saved her, for when I looked into the hive (I did so very quietly), they were balling her. I smoked the ball after removing from the hive, and again caged the queen. The second time they took kindly to her. *Now* there is a dearth in the flow of honey, and on looking into the hive I find they have no honey. The new queen has started to lay a few eggs (and I have started to feed half-and-half sugar and water.) Now my main question is this: I have found two queen-cells again, one capped and two started. (I destroyed them). Now, how did they get these cells? Do you think the bees are not satisfied that she is laying, and have a sort of supersedure fever, and have used some of her own eggs to build these cells? I know that I removed all cells before.

2. A swarm issued on July 12th. The parent colony was moved to a new stand and in time a virgin hatched. This colony is doing fine, and the virgin was purely mated, but the old queen and the swarm which I put into the new hive on the old location (I clip the queen's wings), is not doing very well. I put in 8 frames of full sheets of foundation and in a *very* short time they drew out 4 frames. The others haven't been drawn out yet. Well, to make a long story short, I found last week a queen-cell started, and so I waited for the outcome. A few days ago, out came a fine virgin. I looked in the hive every night for 4 nights and Miss Virgin looked fine, and the old queen was there, too. Tonight (July 27,) I looked again, and found the old queen and more eggs than I had seen before for a good while. When I picked up about 3 frames I discovered a ball of bees. I smoked them and found Miss Virgin in the center, dead as a door-nail. This hive also ran short of honey, so I started to feed. Now what was the trouble? Did the old queen stop laying because there wasn't much stores and then the bees think she was getting too old and tried to supersede her, or what was the trouble? She was bought with a 3-frame nucleus this year, and was sent to me as a last year's queen. Now did the bees ball and kill the virgin, or did the old queen meet her and kill her?

3. The season has been very backward here in New Jersey, and I want to get my colonies built up for the fall flow. We have an abundance of goldenrod, wild aster, Spanish-needle, and a little buck-

wheat (but very little.) I ought to get something from this if my colonies are strong in bees, by that time, hadn't I?

4. I have contracted the entrances to all hives of colonies that need feeding, or that are weak in bees. The strong colonies don't need any contracting, do they? NEW JERSEY.

ANSWERS.—1. "Johnny-on-the-spot" saved the balled queen, but are you sure that "Johnny-on-the-spot" was not also responsible for the balling? The likelihood is that the queen was not balled until you disturbed the hive, and that she would not have been balled otherwise. You did the right thing, however, to rescue her when she was balled.

The last queen-cells were from the eggs of the new queen. It is not at all uncommon to have the bees start cells after a new queen begins laying. I don't know why they do it, but it seems just a little as if they said to themselves, "Here is a chance to start queen-cells, and we have had so much trouble lately about having a queen that we better improve the present opportunity and be on the safe side." I don't know whether the bees would later destroy these cells or supersede the queen, as I have always destroyed the cells, and then the queen went on all right.

2. It is hardly likely that the bees were dissatisfied with the queen for not laying enough, as usually it is the bees that stop brood-rearing, the queen continuing to lay after the bees give up attention to the eggs. If you look in the hives in the fall, you will often find sealed brood and eggs present, but no unsealed brood, showing that the queen has continued laying at least a week after brood-rearing ceased. It is nothing unusual for the bees to supersede a queen soon after swarming, even if the queen be not very old. I don't know why they destroyed that virgin (I suppose the workers destroyed her.) They sometimes do such things with no apparent season.

3. I dare not risk a guess as to whether your bees will find enough to fill up for winter. I would rather know first whether there is usually a good fall flow, and then guess that the usual thing would happen. Buckwheat sometimes does not yield. In some places goldenrod and aster yield nothing. They are abundant here, but a bee is seldom seen on them.

4. It is not so important to lessen the entrance, as to avoid everything that may start robbing. This year my nuclei have the same entrance as the full colonies—12 by 2 inches—and there has been only one case of robbing, and there has also been one case of robbing at a full colonly with a normal laying queen. Very likely some unwise thing had been done to start the robbing.

Getting Hives Full of Worker-Bees—Ventilating Hives, Etc.

1. What are the best ways to get hives full of workers in place of frames being almost all filled up with honey and *no work* being done in the supers? Do you believe that putting on supers with shallow brood-frames, early in the season, is a nearly absolute remedy for this, to be removed as soon as they are one-quarter, one-third or one-half filled with honey?

2. What is the way to contract a brood-chamber of Hoffman frame (10 to a hive)?

3. I have been deterred from ventilating colonies, by putting blocks between the hive-bottom and the body of the hive, because of pretty cool (or rather cold) nights, even when the day is quite hot. Is there any validity in such deterrence?

4. In putting frames of capped brood into inferior colonies, is it not of importance to put in first one (or scarcely) two, or may a greater number be put in? I amagine that the surface of brood must be proportionate to the number of bees in a colony relatively weak. PENNSYLVANIA.

ANSWERS.—1. I'm afraid in the case you first mention that you had robbing. You could hardly get bees to drown in honey by uncapping combs, but you could get a lot of bees killed by robbing.

It isn't certain just what the trouble was that made the bees fill up the brood-combs with honey without working in the super. One reason might be that the queens were not the best. Possibly it was partly because there was nothing to attract them in the super. The plan you propose will probably be satisfactory. But I have no difficulty without going to so much trouble. The drawn-out comb in the extracting-frame is so nice for the bees to deposit honey in that they are likely to begin work there just as soon as there is extra honey to store. But did it never occur to you that drawn-out comb in a section is just as attractive as in an extracting-frame? I put just one section filled, or partly filled, with drawn-out comb in the center of the super, and when the bees start in that—and they start in it as soon as they would start in an extracting-frame—they keep right on filling up the adjoining sections if there is flow enough.

2. Oh, yes, you can contract if your dummies don't come within an inch of the floor. All you need to do is to fill up the space with dummies. Nor does that take so very many dummies. Your dummies may be as thin as you like (mine are 5-16 of an inch thick), and you can space them an inch apart from center to center. Indeed, if you have as many as 3 dummies they may not want to build in the space beyond.

3. I don't think any harm will come from that greater ventilation in cool nights.

4. You must use caution or you may have a lot of dead brood. If all the brood in the comb be sealed, and if it be old enough to be hatching out, then very little care is needed, for such advanced brood will keep up its own heat nearly as well as the mature bees. But you will seldom have such combs, and if there be considerable unsealed brood, or brood that has been sealed only a short time, then there must be enough bees in the hive to cover it well. One way to avoid chilling is to take with the frame of brood the adhering bees. Only if you add too many strange bees you may jeopardize the queen. Let the strange bees never be more than half as many as the bees already in the weak colony.

Another way to do is to swap frames. Take from the weak colony a frame containing mostly young brood, and put in its place one containing brood more advanced. All the better if nearly all is sealed and just ready to hatch.

Did the Bees Help in Perfect Fertilization?

In Connecticut there was perfect weather for the peach-bloom this year. One extensive grower said, "The lack of moisture and lively movement of the air were the agencies I attributed to the perfect pollenization this season." Don't you think the bees had something to do with that "perfect pollenization"? CONNECTICUT.

ANSWER.—It certainly looks reasonable to believe that where the air is depended on to carry pollen dry weather is favorable, for wet pollen is too heavy to be carried well. There is a possibility, however, that too dry weather would not favor the pollen adhering to the stigma. A "lively movement of the air" is also favorable, for in a dead calm the falling pollen could strike only what happens to be directly beneath it. Even with the favor of dry weather and the air constantly on the move, the chances that a grain of pollen will alight upon a spot where it will do the most good are not very many. No matter how dry the pollen, it is still heavier than air, and is constantly falling, so that it soon gets too near the ground to do any good even to the lowest blossoms, while the blossoms at the top of the tree would stand a very slim chance. Compare that with the work of a bee that comes well dusted with pollen, which it does not scatter promiscuously, but dusts only on the blossoms. I leave you to figure out how many hundred times the amount of pollen would have to be increased to make the wind equal to the bee.

Mating of Queens—Yellow Sweet Clover—Yellow Combs—Morning Glory as Honey-Plant

1. I see by the bee-papers that there are other bee-keepers in this State having trouble about getting queens mated. I have lost as high as 6 queens to the colony the past spring, and have had to watch every colony that swarmed and give them brood, after the queen hatched, to see if they started queen-cells. Nearly all had to rear their second queen, and some even 6. I started to rear Italian queens the past spring, and to every colony I would give 2 capped queen-cells. When they hatched I would date them and watch them. I was proud of my queens, as the past spring was my first experience in queen-rearing; but they didn't seem to mate, so I soon became discouraged. I would give eggs and brood at the proper time, after the queens hatched, and I thought it time for them to begin laying, but in every case, where I gave queen-cells, they built queen-cells, so I thought I would give up queen-rearing for the present. I am satisfied the trouble is bee-martins, as I think they pick the yellow or black queens up every time they see one. I had several nice swarms while I was in the bee-yard, and as soon as all the bees would get out, I would remove the mother colony and mark it queenless, so I could give them a queen-cell and pinch out theirs. Several times the swarm would return after flying around for a few minutes, to the old stand, where I would have a new hive with full sheets of comb foundation, and they would go right to work and build queen-cells. I have seen bee-martins flying through swarms of bees, and have seen them catch bees on the way through and twitter about it. Sometimes there would be 3 or 4 birds at a time in a swarm. Whether they caught the queen, I am unable to say, but she left the hive of the mother colony, as I looked, after the bees swarmed. Bee-martins are very thick around both my apiaries. I have 165 colonies, and queenless colonies are lots of trouble and expense. Thank goodness I have only 8 more left to mate. They are mating slowly, but I try to keep the colony strong by giving brood, but that robs the other colonies of their bees. What I want to know is this: Can I take some bees from one apiary to another (a pint) and put some yellow stuff on them that would stay on, and turn them loose a few at a time, and put some poison on them to kill the birds when they eat them? Do you know of some kind of poison to use, how to use it, and what to paint the bees yellow with, so they can fly? Is there any danger of such bees entering the hives in a strange apiary, and poisoning the honey? I have thought of this plan, but I am not acquainted with poison, so would not know what to use, nor how to use. Do you think it would work? I cannot take a shotgun and kill

all the bee-martins, as one apiary is in a pasture where there is stock, and no shooting is allowed. Besides, I am no sportsman, and have no time to go hunting, as I believe there are more bee-martins than I could kill in a year's hunting, right in this neighborhood. Anything you suggest as to the bee-martins will be tried, as I dislike driving along the road and having them flying along, twittering at me.

2. Why is it that some sections of honey in the same super, and stored at the same time, are capped white, while others are capped yellow?

3. Will yellow sweet clover cause the bees to cap the honey yellow?

4. We have more yellow sweet clover here this year than ever before, but I seldom see a bee on it. Why is it?

5. Last year white sweet clover was everywhere; this year there is scarcely any. Why did it not grow again this year, instead of the yellow? The bees worked on the white all the time, and seemed to be crazy over it, but they paid no attention to the yellow.

6. Does morning-glory make nice honey? We have hundreds, yes, thousands, of acres here, and the bees seem to work on it some; also carpet-grass. The honey I have extracted is light amber.

7. The new brood-combs built this year look yellow, as if the bees had been on sulphur and tracked it over the uncapped combs, giving them a kind of golden color. What causes this?

California.

Answers.—1. I don't know whether your scheme of poisoning martins would work or not. I don't think there would be any danger of poisoning bees by it, unless you should sweeten the poison used. At a guess I would say that you might paint the back of a bee with a solution of strychnine or arsenic colored with yellow aniline dye, with possibly a little glue. Then if you could get a martin to eat enough of these bees you might accomplish your murderous design.

2. I don't know why there should be any difference in the color of two sections sealed at the same time. It is barely possible that you refer to travel-stain, which will appear on the central or older sections, while the remainder are white.

3. I think not.

4. I don't know.

5. Sweet clover is a biennial, growing the first year without blooming. Then after blooming and producing seed the second year it dies root and branch. So if you sow seed one year and leave it to itself thereafter, the tendency would be to have bloom every other year.

6. I am not acquainted with such honey, but I think I have read that it is of fair quality.

7. It is probably colored by the blossoms on which the bees are working at the time. Comb built when bees are working on dandelion is quite yellow, and it is likely that other plants affect the color of the wax.

Taking Off Comb Honey—A Swarming Experience

1. A friend of mine, of whom I bought my bees, has a colony in a regular 10-frame dove-tailed hive. Last fall they were a little light in weight, so I advised him to put on an empty super and feed them, which he did. He left that super on all winter. When spring opened I told him to take it off and put a super on filled with sections. He left the empty super on and put the other super with the sections on top. When I saw that I told him he did wrong in not taking off the empty super. He asked me to do that. Some time after I went to do the work and saw that the bees had started in the super and built combs below the top super to the section-holders and into the empty super, which was below the sections. I told him it was too bad now to tear off those combs, and as be wanted the honey for his own use, I would leave it just as it was, until filled, and then take them off. About two weeks passed when I took the supers off, and the bees had built the combs to the brood-frames, and filled up every little space in the supers. Now, in taking them off the combs tore, and the honey ran down and out of the entrance of the hive. About 3 hours after everything was full of bees, they flew in all directions, and it seemed as if they had a regular war. I told him I didn't know what else to do, for if the honey was left on till fall we would surely kill them, and we took the chances. If they had brood, they would have bees when the old ones were dead. After that time the bees seemed to get less, and he asked me to examine them, as he thought they were getting less. This morning I opened the hive, and by taking out the frames I saw they were all empty—no brood and no stored honey, and about one pound of bees. I didn't see any queen, either. Now, what was the right thing to do in a case like that? Is there anything to be done yet?

2. I have 11 colonies of hybrid bees, I have one that has never swarmed, and every year has stored a good amount of surplus honey; they also seemed to be much tamer than the others. They were hived 2 years ago. I am thinking of breeding queens, and to make a start with these bees, and giving queens to my other colonies that swarmed more than I wish. Would it be advisable to do that? Would it not to be too late to do that this year?

3. I have one colony from which issued 3 swarms in one week—Sunday, Tuesday and Friday: and having a good honey-flow at the time, they seemed to do well. The last swarm had 4 queens. Have you ever seen anything like it?

Illinois.

Answers.—1. There is nothing worth while to do now, as the few bees left are probably so old they are of little value. More than one thing might have been done differently in the first place, so as to avoid such a bad case of robbing. You might have done the work just as it was beginning to get dark—too late for the robbers to get started that evening—and then by morning the bees would have cleaned up all the muss so that no robbing would be attempted. You might have done the work in a tent or in a cellar where the robbers would be kept out. When you pried up the supers and found it started the honey to running, if you had at once let them down again and closed up everything, less honey would have run, and in the course of 24 hours the bees would have cleaned it up dry, so that you could then have pried it up without starting honey to running. It is possible that you could have taken off the supers with less leakage if you had slipped a wire between the super and the hive and sawed through with the wire.

2. No, it is not too late, although if there is no honey-flow you will not succeed very well at rearing queens. If you do not succeed to your satisfaction this year, there is a plan that you might like to try next year. If your best colony is not stronger than others, give it young bees or sealed brood from other colonies, so it shall swarm first. When it swarms put the swarm on the stand of the old colony, which we will call A, and put A on the stand of another strong colony, moving ths latter colony to a new place. The returning field-bees will strengthen A, and in proper time it will send out another strong swarm. This swarm you will set in place of A, putting A on the stand of another strong colony, and moving this latter to a new place. Proceed in this way just as long as A continues to swarm, and you may have several strong swarms, all of them baving queens of A stock.

3. I am not sure I ever had anything quite so bad as that, although it is nothing unusual where bees are allowed to swarm naturally and the old hive is left on the old stand, swarming continuing until 5 or more swarms have issued, all the young queens being allowed to issue at last.

Stingless Bees

Are there any such bees as the stingless? If so, how do prices compare with golden Italians? also, where can I buy some? Who keeps them for sale? Illinois.

Answer.—For some reason there seems to be an unusual inquiry for stingless bees. I don't know of any such bees in this country. In one or two cases I think they have been brought here from South America, but did not last long. Even if you could keep them, they are commercially of no value. I don't suppose you could get as much honey from a hundred colonies of them as from a single colony of the common honey-bee. Don't dream of getting stingless bees.

Stingless, White, Cyprian, Caucasian and Carniolan Bees

Would you kindly tell me where I would be able to get the queens, or, in other words, the stingless bees, here in the United States or elsewhere? and also where I would be able to get the queens of the latest white bees which were introduced in the United States last year, and proved to be a success, and likewise the stingless race? What color are the Cyprian bees? also the Caucasian? and what is the difference as to color between the Caucasians and the Carniolans?

California.

Answer.—See answer to "Illinois" about stingless bees, in the question above.

I don't know of any bees that were introduced into the United States last year.

Cyprian bees look very much like Italians, but the yellow bands are a trifle wider and deeper in color. The difference in color between Caucasians and Carniolans is so little that they can hardly be told apart, except by other characteristics. They look much like black bees, but with an indistinct whitish stripe.

Old Queens—Laying Workers, Etc.

1. I have one colony of bees whose cells are uneven on top—some tall and some low. What is this? Some of the brood looks pink, but does not smell. I have a virgin queen in the hive. Could she be a drone-layer only, or not purely mated?

2. How am I to get rid of a laying worker?

3. I got a queen last spring and used her as a breeder, and transferred her to several hives. Recently I took her out of a full hive and put her into a cage with plenty of candy made of honey and sugar, and let her alone, and found the bees had balled her. One wing was clipped. What was the matter? I want to remedy the trouble. I can not understand why she disappeared, and the hive was not meddled with.

4. I lose a good many virgins in August, and I don't understand what the trouble is.

5. How can I get the bees to place the honey in the super of a hive, over a caged queen one year old? I have been feeding nights. Ohio.

Answers.—1. That is not the work of a virgin, or unfertilized queen, but rather of an old queen. It is nothing very unusual when a queen becomes quite old for the store of spermatozoa to become to a certain extent exhausted, and then some of the eggs laid in worker-cells will not be fertilized and will produce drones, and the cappings of these will be raised. It is not the work of laying workers, for in that case none of the brood would be sealed level.

2. Generally the best thing to do with a colony that has laying workers is to break it up, giving the bees to other colonies. It is difficult to get the bees to accept a queen. But if the colony is strong enough, and you are anxious to have it continue, you can give it a virgin just hatched, and this will pretty

surely be accepted. Or, you may exchange some or all of its combs with adhering bees for frames of brood and bees from another colony or colonies, and the younger bees thus introduced will accept a laying queen.

3. I don't know what the trouble was. If I knew all about just what you did, and the condition of the colony, I might tell something about it. But then, again, maybe I might not, for introducing a queen in that way is always more or less a matter of chance.

4. They are probably lost on the wedding-trip. Many virgins are lost in that way. In some places the trouble seems to be worse than in others. It is supposed that birds catch the virgins, and sometimes they are lost by returning to the wrong hive. There is more danger of their being lost in the latter way if hives are close together, all looking alike, and no landmarks, such as trees, to help mark the hive.

5. Your letter being written the middle of August, it is nothing unusual for bees to let up on brood-rearing about that time, and, of course, it is the right thing that honey should be filled in the cells left vacant by the hatching brood and not occupied by the queen. If, however, the bees have not started at all in the supers, you can do something to help that, provided enough honey is gathered. You can put in the center of the super a bait-section; that is, a section that was partly filled last year and cleaned out by the bees. If you have no such section you can cut a small piece of comb out of a brood-comb and put that in one of the middle sections. If they are too slow about starting in an extracting-super—a thing that doesn't often happen—you can put into the super a frame of brood for a day or more, until a start is made in the adjoining frames.

Certain Bees as Foul-Brood Fighters

1. Are the Holy-Land, Cyprian, Carniolan, and Caucasian bees as good for cleaning out foul brood as the Italians? If you do not know, have you read or heard any one speak in favor of the above bees as being good foul-brood cleansers?

2. What success have you had with your method of cleaning up foul brood—the new way tried a year or two ago? NEW YORK.

ANSWERS.—1. I don't know how the bees you mention compare with Italians in the matter of fighting foul brood, and do not remember to have seen or heard anything regarding the matter. Very likely there is not much difference. I suspect that it is not so much the particular race as it is the energy of the individual colonies. While it may be true that a certain race of bees is better than another, I suspect that the most active colony of the poorer race will do more at cleaning up foul brood than the laziest colony of the better race.

2. You will find report of my latest experience in foul brood on page 261.

REPORTS AND EXPERIENCES

Bees Did Fairly Well

Generally bees have done fairly well around here this year, so far as I have been able to learn.

The American Bee Journal seemed like a friend to me whenever I have been permitted to read it, since 1884. I highly appreciate Dr. Miller's kindly talks, and hope some day to own a copy of his "Fifty Years Among the Bees."

Gaston, Oreg. R. L. WILDMAN.

Results of the Season of 1911

I had 48 colonies of bees, spring count, and increased to only 63 by natural swarming. I have taken off 3,000 pounds of white honey, and buckwheat will not give me much, as there are only about 20 acres in this district.

ROBT. RUTHERFORD.

Strange, Ont., August 4.

Not a Favorable Season for Bees

I have 45 colonies of bees. I had no swarms this year and few last year. I got about 800 pounds of basswood honey this year, but no clover honey. The clover was all killed out last fall and winter. We have had it very dry here—the driest I have ever seen, and I am in my 74th year. I lost no bees last year, as they winter well. Some of them have done very well on basswood this season. I have 2 colonies that gathered 6 pounds a day for 3 days in the best of the season. I am getting 16 cents a pound for my honey at the stores. It retails at 20 cents. WM. CLEARY.

Algona, Iowa, August 4.

Using Unfinished Sections

I will give my method of using unfinished sections: At the end of the honey season, I take the supers off the hives and to the honey-room, where I remove the sections. As I take the supers off, all the unfinished ones I grade into three different lots—Nos. 1, 2 and 3. Grades 1 and 2, I offer for sale—No. 1 at 8 cents a piece, and No. 2 at 5 cents a piece. I worked up and established a trade on such honey among my neighbors and their vicinity. By doing thus, I always have orders waiting.

Grade No. 3 I do not offer for sale at all. If I have any colonies that are short of stores in the fall, I feed the No. 3 back to them, and, if not, I keep them over winter and feed them to the colony that has the least stores in order to promote brood-rearing. By thus using grade No. 3, I kill several birds with one stone—by feeding in the fall for winter stores, in the spring for brood-rearing, and also in the spring as bait-sections.

I don't see how any bee-keeper can use unfinished sections to any better advantage than the ways I have here given.

T. A. CRABILL.

St. David's Church, Va.

Expect Good Honey-Flow—Cheap Hive-Tool

The honey-flow seems to be on now in this district, and when the flora overcomes the effects of a recent hailstorm, I think we may expect something fine in the way of a honey crop. The demand is good, and enquiries frequent.

A neat and handy little hive-tool is made from the end of a buggy-spring about 8 or 10 inches long. The round end may be used for prying off covers, supers, etc.; the other end being made square and sharpened from the concave side to a chisel edge, takes the place of the famed glazier's knife. Any machine-shop should shape and polish the tool for 10 cents.

JOHN S. SEMMENS.

Wiley, Colo., August 6.

Wild Liquorice—Bee-Keeping in Irrigated District

I would like to know the name of the plant herewith (seed, blossom and root.) It grows quite abundantly here, and some years it is a great nectar-yielder.

This is my first year's experience in an irrigated district, and it is certainly wonderful. There was absolutely nothing until June 14th, when the flow from lucerne (alfalfa) started with a rush, and no let-up since. Bee-keepers say it continues until frost. Sweet clover is everywhere, and alfalfa close to ditches, which goes to seed. Only 4 members of the National are in this State, with room for 1000. Mr. Hutchinson's slogan for me!

B. F. SMITH, JR.

Cowley, Wyo., July 29.

[The plant in question is the Wild Liquorice, (Glycyrrhiza lepidota), and is considered a good honey-producer. If Mr. Smith had chewed the root he would have guessed the name.—C. L. WALTON.]

Second Blooming of Honey-Plants

I am increasing my 300 colonies of bees to 500. There is a very fine fall flow of honey here now. At one of my yards the bees yesterday were dropping heavy on the alighting-boards, and the nectar they had in their sacks was as white and clear as water. It has a nice flavor, but I am unable at present to tell just what it is.

We have had a heavy rain-fall of late, and raspberry and milkweed and also plants blooming early in June are blooming again. It may be this second blooming is what the bees are gathering from, but the flavor is not the same.

IRA D. BARTLETT.

East Jordan, Mich., August 19.

A Discouraging Season

Bee-keeping and honey-production have been very discouraging in this section of the country this year. We had no rains from February to August 3d. In spite of the fine prospect in early spring for white clover and linden, there was hardly a pound of honey in the hives August 1st, and brood-rearing was at a stand-still; but since the middle of this month, the bees have stored considerable honey, and we may not need to feed them for winter, besides getting some surplus.

MAX ZAHNER.

Lenexa, Kan., August 24.

Bees Did Fairly Well

Considering the dry season we have had so far, bees have done fairly well, some of my colonies having stored about 60 pounds of extracted honey each, and others have filled 2 cases of comb honey. Sweet clover and alfalfa—our great honey-plants—had hardly ever failed to give a good supply of nectar for the bees, and more alfalfa is put out every year, so the outlook here for bee-keepers looks bright. Bees are swarming in August.

Ashton, Neb., August 16. H. HANSON.

Honey from Alfalfa in Missouri

This is the first year I have ever noticed bees working on alfalfa in Missouri. I suppose the drouth put it in about the same condition as where they irrigate. This is the first bad drouth we have had since farmers began sowing alfalfa here, and it will be a good thing for bee-keepers, as more of it is being sown every year. Alfalfa produced seed this year, showing beyond a doubt that it produced honey.

Since May 15th we have had very little rain, but lots of wind; pastures would burn if there was anything to burn. White and red clover, I think, are all killed.

My home yard with 101 colonies in 10-frame hives was lighter July 20th than they were before fruit-bloom. I took frames of honey from the strongest and gave to the weakest, and got ready to feed.

About July 25th the bees commenced working on the heartsease in the Missouri

River bottom, and alfalfa on the upland; and today they are at least 75 pounds heavier per colony than they were a month ago.

Clay County, Mo., will make a display of honey at the next meeting of the Missouri State Bee-Keeper's Association, to be held at Electric Park, in Kansas City, Mo., Sept. 26, 27, and 28, 1911.

Liberty, Mo., Aug. 20. J. F. Diemer.

Good Prospects for Buckwheat

Honey in this locality was only about half a crop of basswood and clover, but prospects are good for buckwheat. I never saw bees work as well, or store as much honey from buckwheat, as they are now. Some of my bees filled their extracting supers in a little over a week.

M. C. Silsbee.

Cohocton, N. Y., August 15.

Half Crop and No Swarms

I have averaged about 30 pounds of good clover honey per colony. The brood-chambers are well filled for winter, with good prospects for a fall flow from goldenrod and asters, which are abundant in this locality. The dry spell from June 10th to August 10th cut off one-half of the honey crop in this section. Abundant rain, which has just fallen, should give us some fall surplus honey. No swarms this season.

Honey Short, but Other Crops Good

Bees in New Hampshire were doing fine until July 1st when the hot wave struck us. It dried up the clover, but I am hoping the bees will finish up what they have started on goldenrod; some swarms had 84 one-pound sections nearly finished at that time. One week more would have finished them. Our crops are good. Potatoes sell here for $2.00 a bushel now. Edgar Ricard.

Canaan, N. H., August 7.

May Not Need to Feed Much

Since I wrote you, July 15th, we have had some showers. We had a very heavy one the evening of the day I wrote. There will be something of a corn crop, but not such a one as we have in seasons of greater moisture. Notwithstanding the heat and dryness, I am surprised at the weight of my brood-chambers. I expected to have to feed much, but it looks now as if I shall have to feed but little. The colonies I am feeding are those that got queenless early, and did not have field-bees in sufficient numbers early enough to get anything from the early flow.

I have faith in bees, but know that I must soon go the way that Hutchinson and Hilton have gone. They rest in peace and their works do follow them. May it be so with me. Edwin Bevins.

Leon, Iowa, August 14.

Sweet Clover for Milk Cows and as a Fertilizer

I enclose a clipping from one of our local papers. This is the first time that I noticed an article of this kind in a local paper, and I believe that the story is worth repeating. It took a long time to educate the farmers to the value of sweet clover, but I hope that we are "getting there," slow but sure.

I know by experience that sweet clover is very good feed, especially for milk cows, for when we were on the farm, some years ago, we had a piece of hay, half of which was sweet clover. We cut everything, thinking that the stock would pick the hay and discard the "stuff." Well, to our surprise, they did, but they ate it *first* in preference to the timothy. If any reader does not believe this, try it and be convinced, and you'll be surprised how greedily the cattle will eat it in preference to the best hay.

St. Anne, Ill., July 29. H. S. Duby.

The following is the clipping about sweet clover, referred to by Mr. Duby, which shows that this great clover is finally "having its day:"

Sweet Clover Now Recognized as One of the Most Valuable Fertilizers.

On the McDougall farm in Danforth township, Iroquis county, Illinois, there was sown 60 acres of the common sweet clover, of the kind that usually grows at the side of the road and is considered somewhat of a nuisance except for pasturage for bees. However, according to "Bob" McDougall, who told the writer about the story, sweet clover is coming to be considered a valuable food-plant, and is also much superior to red clover in improving the soil, as the roots spread out more and go down further, and have more of the microbes that assimilate nitrogen.

The sweet clover has grown up about as high as a man's head, and is a veritable jungle of vegetation on the ground. Some of it has been pastured, the cattle eating the tops greedily when in blossom. The most of the 60 acres will be cut for hay and the seed threshed out.

Supervisor Gilfillan, of Belmont, has tried some experiments in the sweet clover line, and thinks it might be made quite a success.—*Watseka (Illinois) Republican.*

Report for 1911—Swarming and Clipping Queens

I had 42 colonies of bees, spring count, in 10-frame double-wall hives, on Hoffman frames, and have increased to 74, the increase being from about one-third of the whole number, 2 of them having swarmed 4 times, which was very unusual, and entirely too much. However, the parent colony built up, and is now doing super-work. The swarming commenced the first part of June, nearly all filling a super before swarming. The prime swarms have filled 2, and some 3 supers, and most of the second swarms have filled one uper. They have sufficient stores for the winter. I don't generally have more than one swarm to every 4, and very seldom a second swarm. This has been an exceptional season in the way of swarming. I am certainly in a good location as to bee-pasture. I produce comb honey entirely, and have the bees starting super-work in the after part of fruit-bloom, which is helped very much by the dandelion bloom, followed by white clover and alsike. Then we have quite a locust bloom, followed by a large crop of sumac and basswood, catnip, and raspberry. We have had about 10 days in the buckwheat bloom, which is unusually good on account of the late rains which have pushed forward the fall blossoms that promise a good yield, such as heartsease, blue and white asters. We also have quite an abundance of goldenrod, but the bees seldom work on it here.

We had quite a drouth through July, but the late rains have pushed everything forward till there is prospect of a fair honey crop. My colonies, from present indications, will average 40 sections apiece, leaving off the afterswarms, and will be all ready for wintering, excepting 2 late swarms that will likely need some additional combs of honey.

I feel like expressing myself as to the war against natural swarming and the clipping of queens. My experience is that a swarm coming off when the queen is disabled, and can't be with them when they alight, is a regular nuisance and bother, while if she is with them it is no trouble to take them to their intended hive, and they go right in, and all is well without having to hunt her up, and then get her and the swarm together.

The clipping of queens is entirely contrary to Nature, and I believe the time is coming when it will be a thing of the past. My bees are of the Golden Italian strain, and are very gentle, and are hustlers.

I would be glad for some information on how to get the much-advertised sweet clover to grow. I have bought seed and sown it three different seasons, and on different kinds of soil, but have failed to get it to grow. Must it have lime, or must the ground be inoculated with soil from the ground from which it grew?

W. S. Willims.

Julian, Pa., August 15.

[We expect to publish quite a little on the growing of sweet clover, during the next few months, and would invite any who have had experience with it, to write us about it for publication.—Editor.]

"Southern Bee-Culture" is the name of a booklet written by J. J. Wilder, perhaps the most extensive bee-keeper and honey-producer in the whole State of Georgia. It is a real hand-book of Southern bee-keeping, with methods so simply described that they are easy to carry out. Every bee-keeper, especially in the South, should have a copy of Mr. Wilder's booklet. He conducts apiaries by the dozen, and produces many tons of honey every season. He tells in careful detail just how he does it. The price of this booklet is 50 cents, or we now club it with the American Bee Journal for a year—both for $1.30. Send all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

"A Year's Work in an Out-Apiary" is the name of a booklet by G. M. Doolittle, the well-known honey-producer of New York State. He tells how he secured an average of 114½ pounds of honey per colony in a poor season. It is fully illustrated, and tells in detail just how Mr. Doolittle has won his great success as a honey-producer. The price of the booklet is 50 cents, postpaid, but we club it with the American Bee Journal for a year—both for $1.30. Every bee-keeper should have a copy of this booklet, and study it thoroughly. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

"Bee-Keepers' Guide"

This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, $1.20; or with a year's subscription to the American Bee Journal—both for $1.90. Send all orders to the office of the American Bee Journal.

BEES AND HONEY

FIRST LESSONS IN BEE-KEEPING

NEWMAN DADANT

The above is the title of a new and revised edition of what for many years was the book called "Bees and Honey," written by the late Thomas G. Newman, editor of the American Bee Journal. Mr. C. P. Dadant, whose reputation as a honey-producer and expert bee-keeper is unquestioned, revised the book recently. The last edition consisted of 160 pages, but the revised edition, hereafter to be known as "First Lessons in Bee-Keeping," contains nearly 200 pages, and is perhaps the most generously illustrated bee-book of its size now published, as it has over 150 pictures.

"First Lessons in Bee-Keeping" is principally for beginners in the bee-business, as its name indicates. It contains the foundation principles of bee-keeping —just what every beginner ought to know in order to start right with bees. It does not pretend to cover the subject in so thorough manner as do the higher-priced and larger bee-books, such as "Langstroth on the Honey-Bee," Prof. Cook's "Bee-Keepers' Guide," etc., but there are a large number of very important preliminary principles that should be well understood by every one who intends to take up bee-keeping, and this book is just the thing for that purpose.

It is printed on excellent paper, and well bound in pamphlet style, and also in cloth. The outside appearance of the cover of the pamphlet edition is different from anything yet seen on a bee-book. One can know without reading a word that it is something about bees, by simply looking at the cover, either front or back.

We intend to present a copy of the pamphlet edition to any person who sends us $1.00 for a year's subscription in advance to the American Bee Journal, whether a new or renewal subscriber; but, of course, the booklet must be asked for when subscribing and sending the dollar.

The price of "First Lessons in Bee-Keeping," bound in strong paper, is 50 cents, postpaid; in cloth it is 75 cents, or with a year's subscription to the American Bee Journal—both for $1.25. We would suggest that you secure a copy of the book in connection with your own advance renewal subscription, and then show it to your neighbor bee-keepers, and get them to send in their subscription; or, if you wish to sell the book to your neighbors, we will make you a liberal discount for such purpose. But be sure to get a copy of the book yourself, so as to see what a beauty it is. Address,

George W. York & Co., 117 N. Jeff. St., Chicago, Ill.

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

ITALIAN QUEENS, 75c; tested, $1.00; breeders, $5.00. W. T. Hellyer, St. Louis, Mo.

QUEENS from New Hampshire, 50 cents.
8Atf W. B. Burlingame, Exeter, N. H.

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey.
5Atf Ogden Bee & Honey Co., Ogden Utah.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address,
12Atf T. F. Bingham, Alma, Mich.

FOR SALE—40 colonies of bees in Root 8-frame hives; tools and fixtures.
E. C. Richardson, Rt. 3, Adrian, Mich.

FOR SALE 50 colonies bees in 10-fr. hives in good condition. Price on application.
9A2t E. H. Canfield, Carson City, Mich.

INDIAN RUNNER Duck Culture Book. Information that beginners are looking for. (Special price, 50 cents) Catalog for two stamps.
Levi D. Yoder,
8A5t Box 44, Dublin, Pa.

FOR SALE—Fine Italian Queens, hustlers; untested, one, 75 cts.; 6 for $4.00; tested, $1 25 each. Edw. A. Reddert, Baldwinsville, N. Y

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C. H. W. Weber & Co.,
2146 Central Ave., Cincinnati, Ohio.

200 TESTED RED CLOVER and GOLDEN young Queens, after 20th of September—50 cents each. Evansville Bee & Honey Co.,
Evansville, Ind.

WANTED—To buy a two-Hoffman-frame honey-extractor, automatic reversing. Must be in working order. State price.
J. C. Gakler, Rt. 1, Box 146, Memphis, Tenn.

FOR SALE—On account of old age and poor health, I wish to dispose of my bees—about 40 colonies, all in excellent condition.
Inquire of American Bee Journal.

MUSIC—Beautiful variations of "Where is My Wandering Boy Tonight," sent on receipt of 25c in stamps.
Mrs. F. W. Ericson, Box 38, Rockton, Wis.

SECOND-HAND CANS—Good ones, two 5-gal. in a box—5 boxes at 45 cts. a box; 10 boxes at 40 cts. a box; or 20 boxes at 35 cts. a box. Address.
George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2A11t

FOR SALE—5000 lbs. Yellow Sweet Clover Seed, new crop (biennial); 4 lbs. hulled, by mail, prepaid, $1.10; 50 to 100 lbs., 15 cts. per lb.; unhulled, 3 cts. per pound less. Alfalfa Seed, $16.00 per 100 pounds. 7Atf
R. L. Snodgrass, Rt. 4, Augusta, Kan.

ITALIAN QUEENS—Having purchased the bees and queen-rearing business of J. L. Fajen, Alma, Mo., we are prepared to furnish Golden and Leather-Colored Italian Queens of superior quality in quantities. Write for prices.
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SUPERIOR ITALIAN QUEENS—$1.00 each; Queens that are well worth the money. If you don't think so after trial, I will replace free next season. Tested Breeding Queen, $2.00. Directions for introducing furnished to those who want them.
E. W. Brown, Queen-Breeder,
Willow Springs, Ill.

THE MICHIGAN BEE-KEEPERS' ASSOCIATION BOOKLET—The booklet is now ready for distribution. Send in your request on a postal card and a copy will be sent you free. The members have much less honey to sell this year than last, so you should write quick.
E. B. Tyrrell, Sec.,
9A2t 230 Woodland Ave., Detroit, Mich.

FOR SALE.—500 3 and 5 Band Queens. Not Cheap Queens, but Queens Cheap. 3-Band Queens as follows: Untested Qneens—1 for 75 cts.; 6 for $4.20. Tested Queens—1 for $1; 6 for $5.70. 5-Band Queens as follows: Untested Queens—1 for $1.00; 6 for $5.70. Tested Queens—1 for $1.50; 6 for $8.70. "Directions for Building Up Weak Colonies," 10 cts.
2Atf W. J. Littlefield, Little Rock, Ark

FOR SALE—A bee-hive factory with one acre of ground. The factory has 2500 square feet of floor space, and machinery sufficient for making hives and portable poultry houses; two small groves on the place; 35 fruit-trees, and abundant small fruits; a 4-room house; business growing; electric power; all modern conveniences; close to the cars and school, and 40 minutes to the city of Porland, Oregon. Write for full description.
The Bee-Hive, Box 167, Lents, Oregon.

Honey to Sell or Wanted

FOR SALE—Nice, thick, well-ripened extracted honey in 60-lb. cans, two to the case, at 7½ cents per pound. Sample free.
M. C. Silsbee, Rt. 3, Cohocton, N. Y.

FOR SALE—6000 lbs. well-ripened basswood honey in 60-lb. cans at 9c per lb.; in barrels, 8c. Sample free. 8A2t
Jos. B. Hesseling, Rt. 3, Potosi, Wis.

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin

FOR SALE—Raspberry Honey, small admixture of clover, basswood and willow-herb, 60-lb. cans (net), 2 in box, 10½ cts., f. o. b. Goodman, Wis. Sample 10 cents; may be deducted from an order.
9A1t E. Woodall, Goodman, Wis.

FOR SALE.—Absolutely pure California sage extracted honey; several cars white and light amber, in 60-lb. tins, two tins to a case. Write us for samples and prices.
Rather Bros., Managers,
Hemet Valley Bee-Keepers' Association,
7Atf Hemet, Cal

WANTED—We wish to buy white extracted and fancy comb honey in small or car lots. We pay cash on arrival. Send a small sample of extracted, state price, and we will advise by return mail.
E. R. Pahl & Company,
Milwaukee, Wis.
Established in 1894. 8A2t

Gold Medals St. Louis Exposition, 1904.
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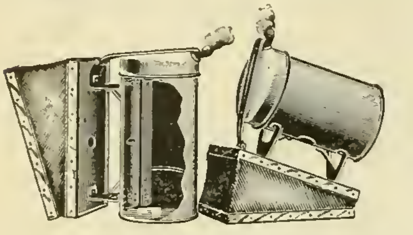

Danzenbaker ✗ Smoker

Shown above in a standing and reclining position. In the latter the grate is under, that it may have a full head of smoke ready on the job at a touch of bellows.

The perpendicular **Fire-Draft Grate,** forcing air **both ways,** makes and **cools** the smoke, forming a **Double Fire-Wall** for **securely** riveting the **double-braced** brackets to the cup, that is **firmly bolted** to the valveless bellows by **Locked Nuts.**

The **One-Piece** cap **can not clog.** It is the **coolest, cleanest, strongest, best,** and **largest net capacity** of all smokers, selling at one dollar ($1.00). We **guarantee satisfaction** or **return** the price; only three complaints in **six years.**

Dan-z. 3½x7½-inch Prize Smoker, $1.00; by mail.......................................$1.25
With American Bee Journal $1.00 per year, and Prize Smoker, by mail.... 1.75
Dan-z. 3½x6-inch Victor Smoker, 80c; by mail.. 1.00
With American Bee Journal one year, about 400 pages, by mail.............. 1.65

We send **Propolis Shields** with Danzenbaker Hives and Supers, and sell anything in the Bee-line at factory prices, also select three-banded Italian queens and bees.

Please send address of yourself and B-friends for FREE catalogs and prices on Bee-supplies, Bees, Queens, Hives, Sections and Smokers. Address, 4Atf

F. DANZENBAKER,
68-70 Woodside Lane, NORFOLK, VA.

Queens Ready Now!

Not Cheap Queens, But Queens Cheap.

Prices of 3 and 5-Band Queens.

3 Band Untested Queens, 1, $ 0.75; 6, $ 4.20
3 " Tested " 1, 1.00; 6, 5.70
3 " Breeder " 1, 5.00; 6, 25.00
5 " Untested " 1, 1.00; 6, 5.70
5 " Tested " 1, 1.50; 6, 8.70
5 " Breeder " 1 10.00; 6, 50.00

Directions for building up weak colonies, 10 cents.

The above Queens are reared from selected Red Clover Mothers. For Gentleness, Beauty, and Good Working Qualities no better BEES can be found. Our Queens are all large, well-developed Queens, reared entirely by the BEES. We use no artificial plans to rear Queens—the BEES far better understand the job than MAN.

Dealer in Bee-Keepers' Supplies.

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From the Sunny South

Three-Bands and Goldens bred in their purity.

Hundreds of fine Queens ready March the First. Untested, 75 cts. each; six, $4.20; one dozen, $7.20. Tested Queens, $1.25 each; six, $7.00; one dozen, $12.00.

All orders filled promptly. Address all orders to—

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2A9t JACKSONVILLE. ARK.

Please mention Am. Bee Journal when writing.

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All from Extra-Select Mothers, Davis' Best, and the Best Queens Money Can Buy

39 Years' Experience in Queen-Rearing.
Breed Three-Band Italian Queens Only.

	July 1 to Nov. 1			Nov. 1 to July 1				
	1	6	12	1	6	12		
Untested...........	$ .75	$4.00	$7.50	$1.00	$ 5.00	$ 9.00	The Very Best Breeder	$10.00
Select Untested...	1.00	5.00	9.00	1.25	6.50	12.00	Select Breeder - -	5.00
Tested	1.50	8.00	15.00	1.75	9.00	17.00	Nuclei—no queen—1-fr,	2.00
Select Tested.....	2.00	10.00	18.00	2.50	13.50	25.00	" " " 2-fr.	3.00
							" " " 3-fr.	4.00
							Colony " " 8-fr.	8.00

Select the Queen wanted and add her price to the price of the Nucleus or Full Colony.

For Queens to be exported, add 20 percent to above prices, except to Canada, Cuba or Mexico.

All Contracts have now been filled, and I am at last ready to serve you promptly.

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QUEENS

From the Old Reliable Queen-Breeder

Every Queen represents the highest Breed of Italian Bees. Golden, 5-Banders, and 3-Banded Queens from my Superior Strains, which are prolific, and hustlers for honey. No disease. Untested, $1.00 each; $5.50 for 6.

After July 1st, 75c each; $4.00 for 6.

Tested, $1.50; after June 1st, $1.25 each; $1.00 each after July 1st, or $10 a dozen.

Select Queens of either grade, 25c extra. Breeders, $5.00 each.

Daniel Wurth, Rt.1, Wapato, Wash.

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Best Dovetail Hives

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Hoffman Frames, and everything pertaining to Bee-Keepers' Supplies sold at **Let-live Prices.**

Berry Boxes, Baskets, Crates, etc.

kept in stock. **Wholesale and Retail.**

Prices sent for asking.

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Please mention Am. Bee Journal when writing.

QUEENS!

248 pounds of comb honey was taken off my breeding queens. Prices: Untested selected, 75c; average queen, 65c; tested, $1.00 each; limited number at $7.00 per dozen. 9Atf

Try these queens.

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Our Spanish-Needle is a hive-ripened article of clear golden color and rich, genuine honey-flavor. Send for sample, or better, order a sample case and give yourself and your customers a treat with this delicious honey. Single 120-pound case, 9½c per lb.; 5 cases at 9c.

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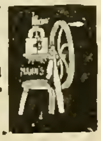
By feeding raw bone. Its egg-producing value is four times that of grain. Eggs more fertile, chicks more vigorous, broilers earlier, fowls heavier profits larger.



MANN'S LATEST MODEL Bone Cutter

Cuts all bone with adhering meat and gristle. Never clogs. **10 Days' Free Trial.** No money in advance.

Send Today for Free Book.

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BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality ; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

Sweet Clover Seed !

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 80c; 10 pounds for $1.50; 25 pounds for $3.50; 50 pounds for $6.50; or 100 pounds for $12.00.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,
117 N. Jefferson St., CHICAGO, ILL.

Italian Queens by Return Mail.

Cyprians Carniolans, Caucasians and Banats. Italians—Untested, 75c; Tested, $1.25; Breeders, $3.00. Others, 25c extra. Two 5-gallon cans, 50c; 1 gallon, $8.25 per 100; 1 lb. panel and No. 25 bottles, $3.75 a gross in crates; in boxes, 75c extra. Complete Alexander Hive, 9-F., 2-story, double cover, $2.00; Alex. Veil, by mail, 45c. Gleanings or Bee-Keepers' Review, to new subscribers, 75c a year. Langstroth by mail $1.00. Italian Bees, $10.00 a colony, 8-F. with super. Supplies and Honey. Send for Catalog. Free School—Saturday afternoon classes.

Walter C. Morris, 74 Cortlandt St., NEW YORK, N. Y.
Apiary—Yonkers, N. Y.

"**Bees and Honey**"—the book by Thos. G. Newman—is almost out of print, but we have a few copies left (cloth bound) at 30 cents each. Do you want one ? Address the office of the American Bee Journal.

QUEENS

AND BEES—an improved superior strain of Italians is what QUIRIN REARS. All yards winter on summer stands with practically no loss. Our stock is hardy, and will ward off brood diseases.

In the spring of 1899, we sent fifty nuclei to J. D. Dixon, Lafarge, Wis., and on July 20th (same year he wrote us, saying they did just splendid, as that writing they had already filled their supers, and that he would have to extract them. We have files of testimonials similar to the above.

Prices after July 1	1	6	12
Select queens	$ 75	$ 4 00	$ 7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	....
Golden five-band breeders	5 00	....	....

Hurry in your order as it soon will be time to unite nuclei for winter. This is the last time this ad will appear for this season, so save it for future reference. No order too large, none too small. Will keep 500 to 1000 queens on hand ready to mail. Safe delivery and pure mating guaranteed. Over 20 years a breeder. Testimonials and circular free. 5A5t

QUIRIN-THE-QUEEN-BREEDER,
BELLEVUE, OHIO

"Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, $1.00; or with the American Bee Journal, one year—both for $1.60. In leatherette binding, 75 cents, postpaid ; or with the American Bee Journal one year—both for $1.25. Send to the American Bee Journal,

---

QUEENS of
MOORE'S STRAIN of ITALIANS

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

My Queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

I am Now Filling Orders
By Return Mail

and shall probably be able to do so until the close of the season.

—PRICES—

Select Tested........ $2.00
Extra Select Tested. 3.00

Untested Queens, $1.00 each; six Queens, $5.00; doz., $9.00. Select Untested, $1.25 each; six, $6.00; doz., $11.90. Safe arrival and satisfaction guaranteed. Descriptive Circular Free. Address, 6Atf

J. P. Moore, Queen-Breeder,
Rt. 1., Morgan, Ky.

Please mention Am. Bee Journal when writing.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.
Cor. Nolan & Cherry Sts.,
4Atf **San Antonio, Texas.**

Please mention Am. Bee Journal when writing.

MILLER'S STRAIN
Red Clover Italian Queens

Bred from my superior breeder for business; gentle; no better hustlers; bees just roll honey in; three-banded; northern bred; hardy and vigorous; winter well; not inclined to swarm; bred from best leather-colored, long-tongued, red-clover strains. Untested, $1.00; six, $5.00; dozen, $9.00. Select untested, $1.25; six, $6.00; dozen, $11.00. Circular free. Satisfaction guaranteed. Isaac F. Miller, of Reynoldsville, Pa., a queen-specialist, is my apiarist and manager, who has been before you quite a number of years.

J. S. Miller, Rt. 2, Brookville, Pa.

Please mention Am. Bee Journal when writing.

MOTT'S
Strain of R. C. Italians

My 10-page Descriptive Price-List free. Untested, $1.00 each; $9.00 per doz. Natural Golden, from Imported Italian Stock, $1.10 each; $10 per doz. Reduced rates July 1st.

Nuclei and Bees by Pound.

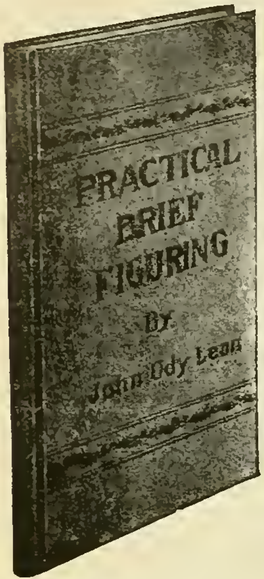
List to select from: Clubbing "The Pearce Method of Bee-Keeping" (price 50c) with a Guaranteed Queen, for $1.10. Books by return; Queens after June 10th. Leaflets, "How to Introduce Queens," 15c each; also, "Increase," 15c each—or both for 25c. 3A7t

3A7t **E. E. Mott, Glenwood, Mich.**

Please mention Am. Bee Journal when writing.

Are You Good at Figures?

These Books would help you much



Practical Brief Figuring

Makes figuring easy and attractive. It contains "short cuts" for the merchant, manufacturer, mechanic and farmer, besides a treatise on the Civil Service Examination in arithmetic.

Freaks of Figures

Is a collection of interesting and very amusing mental diversions for parlor entertainments and social gatherings for old and young. Both of these books are printed on an excellent quality of paper, and neatly bound.

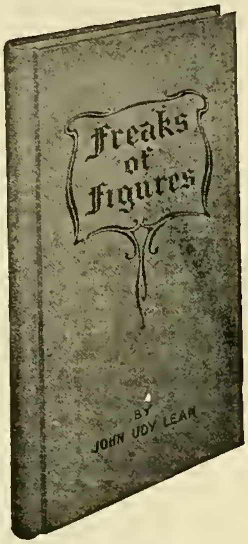
We have completed arrangements with the author by which these books may be secured by all subscribers of the American Bee Journal at a nominal figure as follows:

We will send you the American Bee Journal for one year and a copy of either "Practical Brief Figuring" or "Freaks of Figures," prepaid, for $1.30.

We will send you the American Bee Journal for one year and a copy of both books, prepaid, on receipt of $1.70.

These offers are good for new subscriptions and renewals.

The postpaid price of "Practical Brief Figuring" is 60c; of "Freaks of Figures," 50c.



George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

"First Lessons in Bee-Keeping" SEE PAGE 281

Poultry Profits Doubled

I bring only 15¢ per lb.
ROOSTER 4½ lbs
I bring 30¢ per lb.
Capon 8 lbs

CAPONS bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

PILLING CAPONIZING SETS

Sent postpaid, $2.50 per set with "Easy-to-use" instructions.

We also make *Poultry Marker*, 25c. *Gape Worm Extractor*, 25c *French Killing Knife*, 50c. Booklet, "Guide for Caponizing," FREE.

G. P. PILLING & SON CO., 23d & Arch Sts., Philadelphia, Pa.

NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
New Goods. Factory Prices.
Save Freight & Express Charges.

Cull & Williams Co.

4Atf PROVIDENCE, R. I.

The Swarthmore Apiaries

are now shipping their well-known

PEDIGREED GOLDEN QUEENS

The Swarthmore Apiaries,

6A4 **Swarthmore, Pennsylvania.**

20th Century Shipping-Cases

"For several years back, both producers and buyers of comb honey have been gradually coming to the conviction that stronger and better shipping-cases are demanded by the trade; and that the policy of buying the cheapest shipping-cases that can be obtained, or, worse still, having them made at some local planing-mill, would, if continued, ultimately kill the comb-honey business, leaving the field exclusively to extracted honey or bulk or chunk honey. The very fact that comb-honey producers have been changing over to the production of extracted honey, that extracted honey is constantly coming nearer and nearer to the price of comb honey, and that some comb-honey buyers are refusing to take comb honey any more, shows only too plainly that the comb-honey business is doomed unless saner and safer methods are used for shipping the product: and, furthermore, there are not a few evidences to show that transportation companies are liable to advance the rates on comb honey. Taking all these things into consideration, the movement toward saner methods of shipping so fragile a commodity has begun none too soon."

The above is a reprint from **Gleanings in Bee Culture** and a part of a circular we have prepared on

Modern Methods of Shipping, by Which a Large Part of the Leakage and Breakage of Combs will be Eliminated

Every comb-honey producer or shipper ought to read this circular and become familiar with the **20th Century Shipping-Cases** therein described. These cases—single and double tier—will be furnished at the following prices:

		PRICE IN FLAT		
	1 NAILED.	1	10	100
12-lb. safety case for 4¼x1⅞ sections	25	20	$1 80	$17 00
24-lb. safety case for four rows, 4¼x1⅞ sections	40	35	2 80	26 00
24-lb. safety case, double tier, for 4¼x1⅞ sections	40	35	2 80	26 00
12-lb. safety case for 4¼x1½ sections	25	20	1 70	16 00
24-lb. safety case for four rows of 4¼x4¼x1½ sections	40	35	2 60	24 00
24-lb. safety case, double tier, for 4¼x1½ sections	40	35	2 60	24 00
12-lb. safety case for 4x5x1⅜ sections	25	20	1 70	16 00
24-lb. safety case for four rows of 4x5x1⅜ sections	40	35	2 60	24 00

These cases will be furnished with two-inch glass, and not with three-inch. If preferred, a wooden slide can be used in place of the glass. For the present we will furnish these cases for only three sizes of sections—the 4¼x4¼x1⅞ beeway, 4¼x4¼x1½ plain, and 4x5x1⅜ plain. A special carton must be made for each size of section used; and as these are the sections in common use we will not, for the present, supply other sizes. The price of each style of case will be the same for each size of plain section, and a little more for the beeway, as it is larger.

Cases include nails, glass, carton for each section, corrugated paper for top, bottom, and both ends, and in the double-tier case a sheet between the top and bottom tiers, also paper for tray in bottom.

The A. I. ROOT COMPANY, MEDINA, OHIO.

CARNIOLAN QUEENS

Bred from Best Imported Strains.

These bees are large and very gentle. Some of the colonies can be manipulated without smoke or veil.

PRICES

	UNTESTED	
One, 75 cts.	Six, $4.25	Twelve, $8.00
	TESTED	
One, $1.00	Six, $5.50	Twelve, $10.00

WM. KERNAN,
Rt. 2, DUSHORE, PA.

Bee-Supplies

We are Western Agents for— 1Atf

"FALCONER"

Write for Fall Discounts—we can save you money.

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

Please mention Am. Bee Journal when writing.

Mexico as a Bee-Country

B. A. Hadsell, of Buckeye, Arizona—one of the largest bee-keepers in the world—has made six trips to Mexico, investigating that country as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated 32-page booklet, describing the tropics of Mexico as a Bee-Man's Paradise, which is also superior as a farming, stock-raising and fruit country. Where mercury ranges between 55 and 98 Frost and sun-stroke is unknown. Also a great health resort. He will mail this book by addressing. 7A12t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

Missouri-Bred Queens!

My strain of bees is the result of many years' breeding and selection. I believe they are equal to any, and surpassed by none. They are long-lived, winter well, breed early, and are unexcelled honey-getters. The workers are long-bodied, good-sized bees, uniformly marked with bands of orange yellow. They are good comb-builders, gentle and easy to handle, and yet protect their homes from robbers. You will make no mistake in introducing these queens into your apiary. I guarantee safe delivery at your post-office, and make a specialty of long and difficult shipments. I endeavor to keep a large supply of queens on hand. Prices as follows:

Untested—1, 60c; 6, $3 25; 12, $6.00. Select Untested—1, 75c; 6, $4.25; 12, $8.00. Tested—1, $1.25; 6, $5.50; 12, $12.00. Select Tested—1, $1.50; 6, $8.00; 12, $15.00. Two-comb Nuclei with laying queens, $3.00 each; 3-comb Nuclei with laying queens, $3.50 each. Discounts on large orders. 7A4t

L. E. ALTWEIN, St. Joseph, Mo.

Please mention Am. Bee Journal when writing.

Queens! Queens!

200 to 300 per month. Virgin, 75c; Untested, $1.00; Tested, $1.25; Select Tested, $2.00; and Breeders, $3.00. Nuclei, Full Colonies, Bees by the Pound. Have letter from State certifying my bees are free from foul brood.

FRANK M. KEITH, 4Atf
83½ Florence St., **Worcester, Mass.**

Please mention Am. Bee Journal when writing.

DITTMER PROCESS COMB FOUNDATION

Has a special department for **working wax into Foundation for the bee-keeper.**

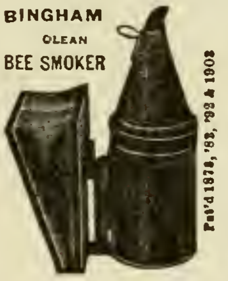
A Postal will bring you full information telling why DITTMER'S WAY is cheaper than selling your Wax and then buying your Foundation.

Remember we give a very reasonable Discount for early fall orders. . .

All Other Bee-Keepers' Supplies Always in Stock.

Gus Dittmer Company, - Augusta, Wisconsin.

HAND-MADE SMOKERS



Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

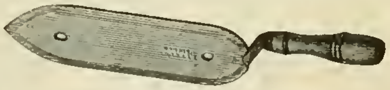
All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other	.90—2½	"
Little Wonder—as its name implies	.65—2	"

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.



Patented, May 20, 1879. **BEST ON EARTH.**

THE FAMOUS Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
Tested— each, $1 25; per dozen, 12.00

If you wish to swell your means,
Just try my Famous Texas Queens

GRANT ANDERSON,
2Atf **San Benito, Texas.**

The Campbell System

INSURES your crop against **DROUTH**

Our experience in 1910 and 1911 has proved that good crops can be grown with less than eighteen inches of rainfall. Those who followed the **Campbell System** in 1910 had a crop in 1911.

Don't Take Any Risks for 1912

Campbell's publications explain the system.

Campbell's Scientific Farmer	-	$1.00
Campbell's Soil Culture Manual	-	$2.50
Combination Price	-	$3.00

Address,

Campbell's Soil Culture Co., Lincoln, Neb.

When you write ask about the **Campbell Correspondence School.** 8Atf

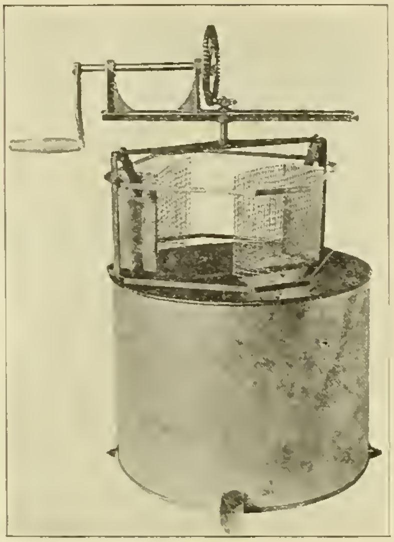
Please mention Am. Bee Journal when writing.

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

Section - Honey Extractor.

Five or 6 years ago I had some 50 or 60 supers of unfinished sections on hand in the fall. I tried to extract them in a frame in a regular extractor, but the sections became more or less mussed up, so I constructed a little extractor with baskets, and to my surprise I was able to clean the sections of honey and use them the next season. Besides, I had extracted about 10 to 12 gallons of honey every night after supper, with my little boy helping me. It convinced me that a device of this kind would be profitable and useful for all comb-honey bee-keepers who might want some extracted honey, besides cleaning up unfinished sections. I now have gotten up a few of these honey-extractors with the reversible baskets, which work even neater than the first one, but it costs a little more. It can be used for all standard sizes of sections, from 4¼x4¼ to 4x5 or 3⅝x5 inches. The picture herewith shows the extractor Can, the section baskets, and also the gearing, the latter being lifted out of the can for the purpose of showing in the picture. It is all made of metal, very strong and durable.

I can furnish this extractor at the fellowing prices: For the reversible style, $4.50; the non-reversible, at $3.00. These prices are for the extractor boxed, and f. o. b. Chicago. As the weight is only about 10 lbs., it would better be shipped by express.



Section Uncapping-Knife, 50c

Address all orders to,

A. H. OPFER, 117 North Jefferson St., Chicago, Ill.

A Few Dollars Invested on Easy Terms in a

Twin Falls, Idaho, Orchard

will insure

An Income For Life

sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

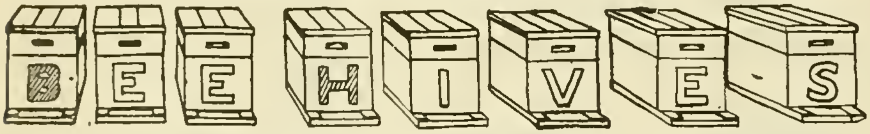
A Source of REVENUE

Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

By calling at our office, or writing us, you can obtain full information.

Twin Falls Co-operative Orchard Co.

881 Stock Exchange Bldg., Chicago, Ill.



Are our Specialty. Winter your bees in **Protection Hives.** Liberal early-order discounts.

A. G. Woodman Co., Grand Rapids, Mich.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

Wanted

WHITE HONEY

Both COMB and EXTRACTED

Write us before disposing of your Honey Crop.

◆ **Beeswax** ◆

—WANTED—

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Idaho Honey-Producers' Association,
IDAHO FALLS——IDAHO

Water-White Sweet Clover

HONEY

Comb or Extracted

BY THE

Can or Train-Load

For Prices, address 8A3

H. A. Anderson, Sec'y,
At the Rigby, Idaho, Office.

Please mention Am. Bee Journal when writing.

Honey and Beeswax

When Consigning, Buying, or Selling—Consult

R. A. BURNETT & CO.
199 S. Water St., CHICAGO, Ill.

Please mention Am. Bee Journal when writing.

Large Quantities of Both COMB and EXTRACTED

HONEY WANTED

Write us for Price, stating Quantity and Grade.

American Butter & Cheese Co.,
612-14 Broadway, CLEVELAND, OHIO.

CORN HARVESTER with Binder Attachment cuts and throws in piles on harvester or winrow. Man and horse cuts and shocks equal with a corn Binder. Sold in every state. Price $20 with Binder Attachment. S. C. MONTGOMERY, of Texaline, Tex., writes:—"The harvester has proven all you claim for it. With the assistance of one man cut and bound over 100 acres of Corn, Kaffir Corn and Maize last year." Testimonials and catalog free, showing pictures of harvester. New Process Mfg. Co., Salina, Kan.

HONEY AND BEESWAX

CHICAGO, Aug. 28.—There is not an active market; dealers consider prices high, while producers believe that the crop is a light one, and are holding back. California, however, has lowered the prices on practically all kinds, and some sales are reported. Fancy comb honey sells at 18c, with from 1@3c less on the descending grades. Extracted, white, 8@9c; amber, 7@8c. Beeswax 31@32c. Stocks are small in volume, and so far have sold soon after arrival.

R.A. BURNETT & CO.

CINCINNATI, Aug. 28.—We have had our first car of comb honey to arrive, which is selling at 16½c per lb. f. o. b. Cincinnati, for No. 1 white. There is no demand for off grades. We are selling white extracted at 10c per lb., and amber in barrels at 7c. Beeswax is in fair demand at $33 per 100 pounds.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

NEW YORK, Aug. 28.—Up to date we have not received any shipments of the new crop of comb honey from New York State or near by, to amount to anything, but expect to have larger shipments during the next two weeks. While there are no prices established as yet, No. 1 and Fancy White will sell at from 15@16c per pound; No. 2 white at around 13c. As to Buckwheat, it is too early to say how the crop has turned out; besides, quite a little is carried over from last season, which is almost unsalable at any fair value. Extracted honey is in good demand. Quite large shipments are arriving from the West Indies, principally from Porto Rico, and selling at from 75@85c per gallon, according to quality. California white sage is selling at from 9@9½c per lb., and water-white at from 10@10½c. Southern sells at from 65@85c per gallon, according to quality. Beeswax quiet at from 29@30c per pound. HILDRETH & SEGELKEN.

DENVER, Aug. 19.—Owing to the continued hot weather, the local trade in honey is light, but the demand for car-lots is good. We quote our local market as follows: No. 1 white, per case of 24 sections, $3.35; No. 1 light amber, $3.15; No. 2, $2.95. White extracted, 8½@9c; light amber, 7½@8⅓c. We pay 25c cash, or 27c in trade, for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

KANSAS CITY, MO., Aug. 28.—We are now reciving shipments of new honey, both comb and extracted. The demand is light on account of being little early. We quote: No. 1 white comb, 24-sections per case, $3.50; No. 2, $3.25; No. 1 amber, $3.25; No. 2, $2.75@$3.00. Extracted, white, per lb., 9c; amber, 7½@8c. Beeswax, 25@30c.

C. C. CMEMONS PRODUCE CO.

BOSTON, Aug. 28.—Fancy and No. 1 white comb honey, 17@18c; light color, 15@16c. White extracted, 11c; light color, 10c. Beeswax, 30c. BLAKE.-LEE CO.

CINCINNATI, Aug. 28.—New honey is coming in quite lively at the present time, and for strictly choice comb honey, we are getting from 15@16½c a pound by the case from the store here. Strictly fancy extracted honey for table use, from 8@9c in boxes of two 60-lb. cans; amber honey, in barrels, from 6@7c. The above are our selling prices; we expect to buy at prices cheaper than the above. For choice bright yellow beeswax, we are paying from 28@30c a pound delivered here, according to the quality

THE FRED W. MUTH CO.

INDIANAPOLIS, Aug. 26.—The demand for white clover comb honey exceeds the supply. Fancy white would sell for 18c readily. Extracted is more plentiful, and sells for 11@12c in 5-gallon cans. The pound jar which has always retailed for 20c is now a thing of the past, and the price is 25c. Producers are being paid about 9c for extracted honey, but no established prices on comb. Beeswax is in good demand, and producers are being paid 30c per pound.

WALTER S. POUDER.

"Bee-Keeping by 20th Century Methods; or J. E. Hand's Method of Controlling Swarms," is the title of a new booklet just issued from the press of Gleanings in Bee Culture. While it is written particularly to describe Mr. Hand's methods of controlling swarms by means of his new patented bottom-board, the booklet contains a great deal of other valuable matter, among which is the following: The hive to adopt; re-queening; American foul brood; wintering bees; out-apiaries; feeding and feeders; section honey; pure comb honey; conveniences in the apiary; producing a fancy article of extracted honey; swarm prevention by re-queening; increasing colonies, etc. The price of this booklet is 50 cents postpaid, but we club it with the American Bee Journal for a year—both for $1.30. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

HONEY HONEY HONEY

We want to buy. **We want to sell**

We are always in the market for Honey, both Comb and Extracted, if quality and price justify. Should you have any to offer, let us hear from you. If Extracted, mail sample, and state how it is put up, and lowest price; if Comb, state what kind, and how packed.

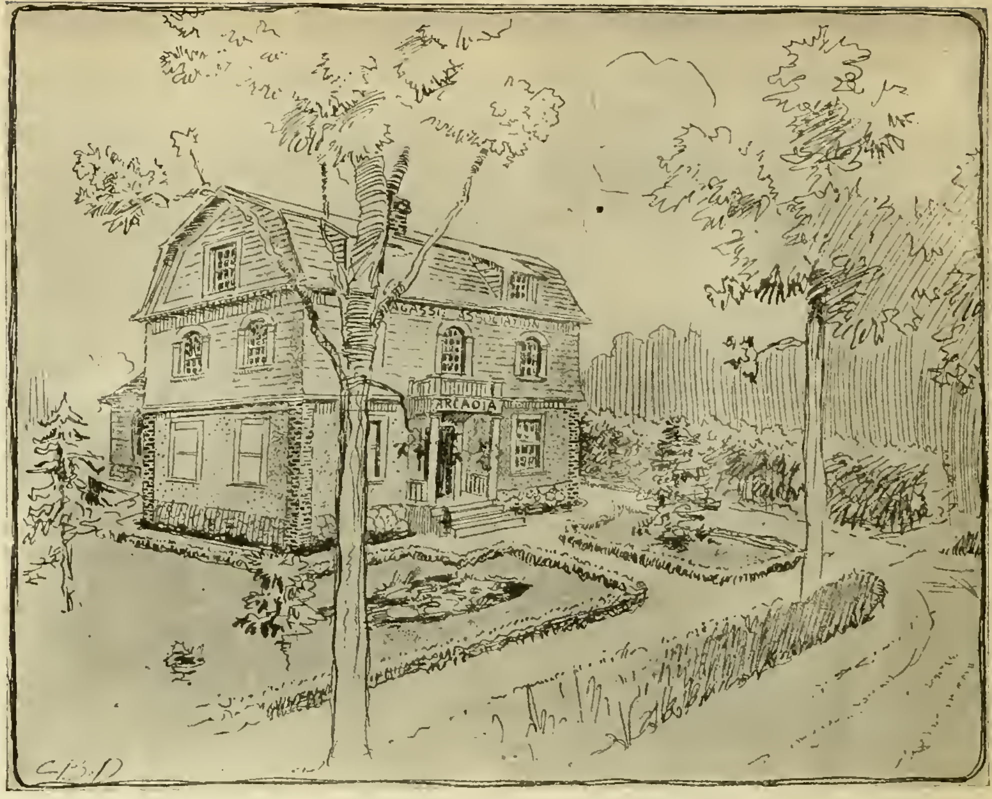
If in the market for Honey, write for prices.

CANS CANS CANS

We have a surplus of Second-Hand 5-Gallon Cans, two to a case, as good as New, used but once. Offer same, while they last, at 25c per case f. o. b. Cincinnati. Order quick, if you want any.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

A BUILDING FOR YOU, BY YOU !



You are respectfully and earnestly requested to contribute to the cost and construction of this building—it and its surroundings known as Arcadia—the Home of The Agassiz Association. The editor of this magazine believes in the worthiness of this Cause, and has contributed this space wherein this appeal may be made to you. You also are in sympathy with it because you love nature, the great outdoors, recreation, inspiration, health, happiness and humanity.

The Aassiz Association established in 1892 (Massachusetts),and in 1910 (Connecticut), is world-wide in its work. It was recently made homeless by a wealthy man who owned the property it occupied which had been promised permanently. He claimed his sole reason was out of friendship to the manager who was making too great personal sacrifice in behalf of humanity, and because he and his family were working without money remuneration. It is an interesting and surprising story. We will tell it to you, if you will let us. The Charter of the AA says:

> "The purposes for which said corporation is formed are the following, to-wit: the promotion of scientific education; the advancement of science; the collection in museums of natural and scientific specimens; the employment of observers and teachers in the different departments of science, and the general diffusion of knowledge."

We believe in those purposes. That is why we ask your aid and wish to be of service to you. No officer of the Association has or will receive a salary. Its altruism in all its purposes and the height of its ideals are excelled by no other organization.

The full story is told in a beautifully illustrated magazine, "The Guide to Nature," its official organ. A copy will be mailed free to you upon request. Contributors of less than ten dollars will receive the magazine the number of years there are dollars in their contributions. Contributors of ten dollars or more are entered as Life Subscribers—as long as they and the magazine are in existence.

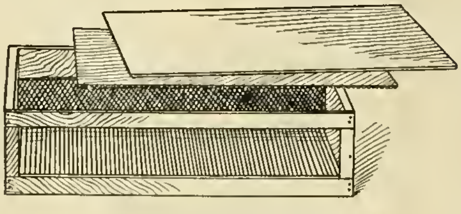
Please write for further particulars.

The Agassis Association, Arcadia, Sound Beach, Conn. **Edward F. Bigelow, President,** and Man'g. Ed. "Guide to Nature."

1912 "Falcon" BEE-SUPPLIES

6 Percent September-October Discount

The fall and early winter months constitute the dull season for selling bee-keepers' supplies. During these same months, after the honey-crop is gathered, the bee-keeper has the most leisure time. To induce bee-keepers to send in these early orders we offer a six percent discount during September and October. As the money is invested not to exceed six months earlier than the supplies must needs be purchased, the interest earned is at the rate of twelve percent, a fine profit in itself. In addition the rush is avoided and the possibility of a delayed shipment and consequent loss in swarms and honey forestalled. How many bee-keepers have lost more honey than the total value of their supplies, just on account of not having them ordered in time? Hives and supplies purchased now can be put together rainy days and idle times cheaper and better than under the excitement of swarming-time.



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AMERICAN BEE JOURNAL

OCTOBER 1911

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OLDEST BEE PAPER IN AMERICA

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

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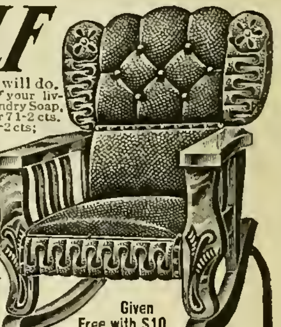
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BEES AND HONEY

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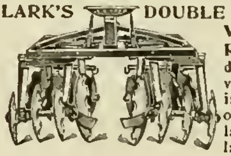

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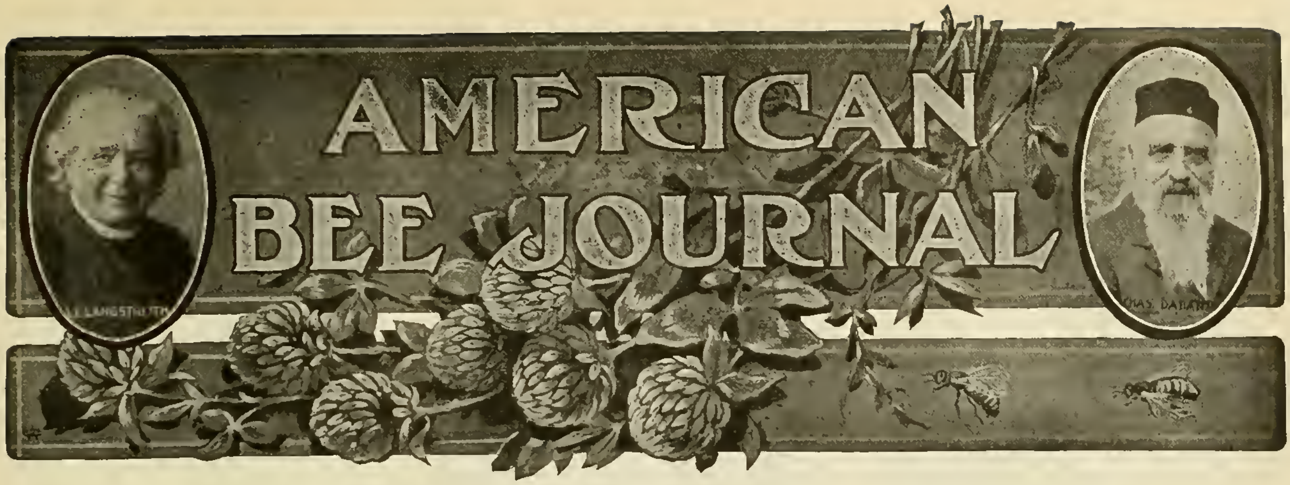

AMERICAN BEE JOURNAL

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

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GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., OCTOBER, 1911

Vol. LI---No. 10

EDITORIAL COMMENTS

Many Bees Likely to Starve

A note from E. M. Nichols, of Massachusetts, sharply calls attention to a matter of great importance. He says:

> "We have had a very poor honey-flow in our section. I have been buying a few bees, and I find they are in bad shape for winter. I have not been able yet to find an apiary with one colony that had sufficient stores for winter; more of them having a teacupful or so of honey each; of course this means a heavy loss, unless they have attention."

The probability is that this state of affairs prevails not merely in this one locality, but over a large scope of territory throughout the country. The season in general was one of drouth and dearth. In Northern Illinois, colonies that were heavy with stores in April were living from hand to mouth in June and July, at the very time they ought to have been storing heavily; and it is not likely that Northern Illinois was very exceptional in this respect.

In some places a fall flow will have been enough, or more than enough, to provide well for winter. But this will by no means be the case in all places. Of course, it is not necessary to call the attention of the experienced and prudent bee-keeper to this matter. But all are not experienced, and it is to be greatly feared that the coming winter will be one of unusual mortality just because so many will take it for granted that the bees are able to take care of themselves with no attention from the bee-keeper.

It is not yet too late to supply any deficiency, but the sooner the better. See that each colony has at least 30 pounds of honey, although something less will do for cellaring. To the inexperienced it is not the easiest thing to tell how much honey is in a hive. If all hives and all colonies were alike, it would be an easy thing to say, "Weigh each hive with its contents, and if it does not come up to a certain weight feed accordingly." But that "certain weight" may vary in different apiaries, as hives, covers, and bottom-boards vary no little. Perhaps it may not be far out of the way to say, "Look in each hive, and see that there is present enough honey so that if assembled in 4 frames it would fill them *full*." Instead of opening *each* hive and estimating in that way, a little easier way may be taken. Find one colony that by careful estimation you feel very sure is heavy enough, perhaps making it so by exchanging frames and giving it heavy combs from other colonies. Now weigh that hive. Suppose it weighs 50 pounds. Now weigh the other hives, and put down the weight of each. If some of them weigh 60 pounds or more, be thankful and leave them as they are. You may feel tempted to take from them to give to lighter ones. Better not. Chance enough to do that next spring.

Having weighed each hive, you must make good the shortage in each by feeding. Here is one that is 10 pounds short. How much feed will you give it? That depends upon the thickness of your syrup. In any case you can not now give as thin syrup as you could earlier. In August you could feed half sugar and half water. That will not do at all now. The bees ought not to be asked to do so much evaporating at this late hour. For so late feeding some advise 2 parts sugar to one of water. Others think it better to give 2½ parts sugar to one of water, as this makes a feed about the consistency of honey. If this heavier syrup is used, you will give 10 pounds to make up the 10 pounds of shortage. If you feed 2 to 1, then to make up the 10 pounds shortage, you must feed about 10¾ pounds, or, to be very exact, 10 5-7 pounds. The idea is to give 5-7 of a pound of *sugar* for every pound of shortage, no matter what the strength of the syrup. It will be as well, or better, and will be easier to figure, if you give a pound of *sugar* for each pound of shortage.

When feeding such heavy syrup, there is some danger of granulation. To avoid this, an even teaspoonful of tartaric acid may be used for every 20 pounds of sugar. Some, however, have no trouble without the acid, and a few have trouble even with the acid.

Size of Colony in Winter

In "How to Keep Bees," Arthur C. Miller says, "In the winter a good colony of bees contains from 3000 to 6000 workers." That seems a small number, but is there anything to contradict it? In all our bee-literature is there any statement at all as to the number of bees in a good colony in winter? The question might be raised as to what time in winter is meant. Can we have any information as to the number of bees in a good colony at the time of its cleansing flight in the spring, either confirming or denying Mr. Miller's statement?

Improvement in Shipping-Cases

Much interest nowadays centers upon the matter of shipping-cases. The complaint is made by shippers that they are not strong enough, and for shipments where they are exposed to the tender mercies of railroad freight-handlers, this complaint is no doubt justified. At any rate, a little more strength will not add much to the expense, and will do no harm in any case. Additional use of corrugated paper will also help.

There is division of opinion as to whether it is better to have 24-section cases single-tier or double-tier. But a point upon which the greatest difference of opinion seems likely to arise is the matter of the glass. Even as to the object of the glass there is difference of opinion. Some have claimed that glass was in one side of the cases so that the railroad men would see what they were handling and use the greater care, but others think the main object of the glass is to allow a display of the honey to the prospective customer.

As to the width of the glass, there

probably no difference of opinion that the narrower the glass the stronger the case. Along with the strength of the case must be considered the matter of looks. What width of glass will show off the honey to the best advantage? At first thought it might seem that if strength be left out of account the more glass the better, and that all would agree that the finest show would be made with one side entirely of glass. But there is no unanimity of opinion as to this, especially when the double-tier case is under consideration. Indeed, after a little thinking no one would be likely to favor a whole side of glass, or even the widest possible strips if two strips of glass be used. Any one who tries it will easily see that a section will look better if the top and the bottom of each section exposed to view be hidden sufficiently to cover up all unsealed cells next to the wood. So in a double-tier case there must be 3 narrow strips ot wood in front, the only question being as to the width of these strips, or, in other words, as to the width of the glass.

Now it would seem that we have come to a point where agreement is easy. So long as the front strips are wide enough to cover all imperfections, leaving nothing to show but the perfectly sealed honey, why not the wider the better? But all do not agree on this. Wesley Foster, who claims that the object of the glass is "to display the honey to the customer," says in Gleanings in Bee Culture, "I would prefer the appearance of a 2-inch glass, double-tier case, to one of 3 inches;" and R. L. Taylor says in the same number, "There may be honey that looks better behind a 3-inch glass, but I have never seen it. It's my opinion that a 2-inch glass is better in every way."

In addition to his belief that 2-inch glass looks better than 3-inch, Mr. Foster thinks cases with 3-inch glass are not strong enough. But he says he has never seen double-tier cases with 3-inch glass. The writer has seen many a pile of sections in double-tier cases with 3-inch glass, as well as in cases with narrow glass, and is decidedly of the opinion that the 3-inch glass makes the prettier show. He has also shipped tons of sections hundreds of miles in double-tier cases with 3-inch glass without any mishap. So it seems not reasonable to believe they are strong *enough*. If desired, they could, without the width of the glass being changed, be made stronger. Two nails could be put in each end of each front strip, where only one was used.

While the subject of changes is under discussion, it might do no harm to consider another point. Instead of having the middle strip of wood, in front, of the same width as the top and bottom strips, why not have the middle strip wider and the other strips narrower? That would make a more even distribution of wood and glass in a pile of cases stacked up. As now made, there is a narrow space between two pieces of glass in the same case, and then more than twice as great a distance before the next glass is reached in the next case. If the middle strip were 2⅛ inches wide, and the other two strips 13-16 wide, then when cases are piled up the amount of wood between two pieces of glass would in every case be the same. If, upon putting the thing to the test, practical objections should arise to strips so narrow as 13-16 of an inch, there might be a compromise; but it seems that in any event it might be an improvement to have the middle strip wider than the other two.

Don't Bee-Keepers Know Foul Brood?

This question Editor Tyrrell asks in the Bee-Keepers' Review in a way that suggests that a bee-keeper is to blame if he can not recognize foul brood when he sees it. Mr. Tyrrell is perhaps putting it a little strong. One who has never seen the disease before may be excused for not recognizing it at first sight, but he is not excusable if he does not try to find out what the trouble is when he finds something wrong with his bees. Too often the bee-keeper seems to have a feeling that it is some sort of a disgrace to have foul brood among his bees; therefore, he keeps quiet about it, perhaps hoping that it may turn out something else, or that it may mysteriously disappear.

It is no disgrace that some infectious disease appears in a man's family, but it is a disgrace if he does not try to get medical attendance, and perhaps a still greater disgrace if he tries to keep it quiet, endangering the whole community. Same with foul brood. Dr. E. F. Phillips, at the head of the bee-business at Washington, makes it so easy to find out about disease that there is no excuse for a man to let it run in his apiary. Not only does he tell you what the trouble is, and what to do, without any charge, but if you write to him he will send you a box in which to mail to him a sample of the diseased brood, and a frank with it, so you will not even have to pay postage. Hard to think what better he could do, unless you expect him to send a chromo with each examination.

A Rhode Island Bee-Bulletin

The State Board of Agriculture, of Rhode Island, has issued a bulletin, "How to Keep Bees," written by no less an authority than Arthur C. Miller. It contains 37 pages of clear type, and is well intended to accomplish its avowed end, "to aid in extending bee-keeping in this State, and to make it easier and more profiable."

In the main it must, of course, contain the usual things to be found in any elementary work on bee-keeping. Some of the items, however, will be more or less new to bee-keepers of other States.

Fruit-blossoms, Mr. Miller says, yield good crops of the finest honey when the spring is favorable. European lindens seem to be more plenty than American, being planted as shade-trees in cities and villages. Goldenrods and asters can not always be depended upon, which is better than in some States where they can hardly be called honey-plants.

On flat or low lands hives must be raised about a foot to raise them above a stratum of cold fog which in the night often lies 6 or 8 inches deep in such places.

The keeper of a few colonies in 8-frame hives who contemplates increasing is advised by all means to change to 10-frame hives.

In making a start in bee-keeping the advice is sometimes given to buy bees in a box or any old hive, and then transfer to a modern hive "for the experience." This is characterized as "the sort of experience to dampen the ardor of the most enthusiastic, and an experience which a wise and thrifty veteran avoids as he would the pestilence."

Mr. Miller thinks it better not to puff smoke into the entrance of a hive.

Not all bee-keepers will favor the advice to give narrow starters to a swarm.

"It is quite unnecessary to put bees in the cellar in this climate; in fact, they are much better off out-of-doors.......Never close the entrance. It may be reduced in size, even down to a square inch, but the experience of years has shown that colonies with entrances wide open (*i. e.*, 14 by 1 inch) are not only just as strong in the spring as those with reduced entrances, but often stronger."

Age of Queens and Introduction

In an interesting article about introduction of queens, by Dr. Bruennich, in the German bee-paper, Bienen-Vater, he says it is easier to introduce an old queen than a young one. That is not a very welcome piece of information, for most of the cases of introduction concerning which there is any considerable anxiety are those in which queens have been received by mail, and these are almost invariably those that have been laying only a short time. In one respect, however, it may prove useful, for a colony of laying workers may accept such an old queen when they would not accept a younger one, and if the old queen is killed the loss will not be so much.

He also says that a colony with a vigorous young laying queen will more readily accept a strange queen than one which has a very old queen. According to this there should be a change in what is probably the general practise. When a queen is received by mail, it is likely to be introduced to a colony with an old queen, because the old queen is of little value on account of age. But in most cases the safety of the new queen is of so much importance that the purchaser would rather sacrifice the younger queen, or perhaps let her replace the old one.

It would be interesting to know whether others have confirmed the statements of Dr. Bruennich, who, by the way, is a Swiss bee-keeper of very high authority.

Feeding Bees Thin Syrup

J. E. Hand can probably take the premium for the thinness of the syrup he feeds bees outdoors. The editor of Gleanings in Bee Culture tells about a visit to him:

"There," said Mr. Hand, pointing with some pride to a lot of outdoor feeders, "I believe I have solved one of the problem that confront every queen-breeder during a dearth of honey. I have here what corresponds to a natural light honey-flow. All my hives are in splendid condition. Bees

> are rearing brood, and the cell-building colonies are at work constructing cells."
>
> "But," we said, "haven't you found that this outdoor feeding wears out your bees unnecessarily."
>
> "Not if the feed is made *thin* enough. Notice that there is no excitement, no crowding, and no bees with the fuzz worn off their bodies as when the feed is richer. See here."
>
> So saying he picked up a common galvanized pail, poured in about 10 quarts of water, then a quart of sugar. With a common dipper he stirred the mixture until it was all dissolved. He next poured this over the feeders and *on the bees*. Some of the bees, during the pouring, were pushed into the syrup, or what was in reality nothing more than sap or sweetened water. They would climb up the sides of the feeder, and take wing as if nothing had happened. We then tasted the sweetened water, and remarked, "Mr. Hand, we can scarcely taste any sugar at all."
>
> "That is true," he said; "but it is strong enough to keep every thing booming here."

Certainly it would seem that if one is to keep bees at work by something in the way of feeding, it will be more like Nature to have the feed as thin as nectar, and a half-and-half syrup is a long way from being like nectar. The one drawback in the case is that all neighboring bees will come in for their share of the goodies. Is it possible that the bees could be trained to visit the feeders when put out so late in the day that neighboring bees would not visit them?

Queens Not Going With Swarms

As a rule, a queen ceases laying about the time of swarming, so as to be in light flying order. But according to Mr. Dobbratz, in Bienen-Vater, exceptions are not uncommon, and he has had several cases himself in which the queens were so heavy that they could not go with the swarms. He mentions one case. Several times the queen was crowded to the entrance by the rush of bees, but plainly did not dare to venture to fly, as she always went back into the hive. Finally, when the swarm had nearly all left he succeeded in catching her. He carried her in the hollow of his hand to join the settling bees, and as he opened his hand he noticed 3 eggs that she had laid while being carried. Plainly such a queen was too heavy to fly with a swarm, and this may often be the answer to the question, "Why did the swarm return to the hive?"

Queens and Their Work

Wesley Foster says in Gleanings in Bee Culture:

> The eggs of queens vary more in proportion to their size than those of the different breeds of hens. I have a Caucasian queen that is laying eggs twice as large as the average egg of a queen. What percent of a queen's eggs are fertile, and what percent hatch is obtained among the best queens? We should know more of the ability of our queens if they confined their energy for just one day to one side of an empty comb. I have several queens that have laid over 3000 eggs on one side of a comb, and not over 20 cells filled with honey or pollen. Were these cells filled with honey or pollen before the queen could lay in them, or did the eggs prove unfertile, and, after they were removed, did honey and pollen occupy the cells?
>
> I have a few queens that show great egg-laying ability, but many of their eggs never hatch, and the hives do not fill up with bees as do others whose queens have no more combs with eggs in them. Something is wrong when a hive will always have eggs, but never any commensurate amount of larvæ and capped brood.

The idea that part of the eggs laid by a queen are incapable of hatching is perhaps new. Yet it is not impossible. It is certain that in very rare cases a queen is found, not one of whose eggs ever hatches. If all of one queen's eggs are bad, why may not part of another queen's eggs be bad? Yet one may be excused for some skepticism as to there being any bad eggs laid by the majority of good queens. Lift a frame out of a hive when a good queen is at the height of her laying, and an area of about 15 by 7 inches, comprising nearly 3000 cells on one side, will be found filled with sealed brood, not a cell missing. That shows pretty clearly that not one egg in 3000 in that case was bad, and there may be some question whether such a queen ever lays a bad egg.

Nosema Apis

Not long ago considerable interest was aroused by the report that Dr. Zander had discovered a new bacillus that he named *Nosema apis*. The ravages caused by this microbe were said to be disastrous; it was the cause of malignant dysentery, and in some cases the only proper treatment was to destroy utterly the entire contents of the hive. Dr. E. F. Phillips thought there was no great cause for alarm lest the plague should be introduced into this country, since the same bacillus was already here, present in many hives with no very serious results.

It now seems that others across the water hold the same views. Dr. Walter Hein, of Munich, has sent a paper prepared for the convention of German, Austrian, and Hungarian bee-keepers, and in that he says that already in 1857 Dœnhoff had discovered the same bacillus, although it was not until now named "Nosema apis." According to this authority, the bacillus in question is by no means the originator of malignant dysentery. In fact, it is to be found in greater or less numbers in most colonies, and a colony may flourish in spite of its presence. All that is needed is to give the best of care, keeping them strong, and they may be trusted to keep properly in check this re-discovered pest.

Foundation - Splints and Split Bottom-Bars

E. M. Gibson uses foundation-splints, and says this in Gleanings in Bee Culture:

> This plan is a great improvement over wiring, in my estimation. Since I followed the Doctor's directions I have been relieved of a trouble that always bothered me while I was wiring frames; for, no matter how well the frames were wired or how heavy the foundation (I have used, for experiment, foundation that weighed only 4 sheets to the pound), it would sag and elongate the cells near the top; and if I cut the sheets wide enough for the bottom-bar to give them support, they would buckle at the bottom.
>
> Dr. Miller states, in the American Bee Journal for May, that some of his frames have whole-piece bottom-bars, and he likes them just as well. I prefer the divided ones for various reasons, one of which is that it saves a lot of fussy work sticking the foundation to them to be pulled loose again by the bees if set aside until cool weather comes. The bees invariably did this for me, and I stuck the sheets on with wax as hot as the foundation would bear without melting. The ⅛ inch taken off the bottom-bar weakens it somewhat; but, even so, it still contains more wood than any other that I have ever seen. After the bees get the divided space filled with wax they seem as solid as whole ones.

It is only fair to say that I have had but little experience with whole bottom-bars in connection with splints. I used a lot of Miller frames with whole bottom-bars, but they were mostly used for transferring into them combs from other frames. So Mr. Gibson's experience may be the safer to go by. Certain it is that the split bottom-bar makes it an easy thing to get an *exact* fit at the bottom. But let no one deceive himself by thinking that all one has to do in any and all cases to get combs built nicely down to the bottom-bars is to have the bottom-bars split. The frames must be given at a time when there is a good flow of honey. If bees have them when little or nothing is doing, they will be pretty sure to gnaw away the foundation at the bottom in spite of the split bars.

C. C. M.

MISCELLANEOUS NEWS ITEMS

The Minneapolis Convention.—Last month we said we would tell something more this month about the last convention of the National Bee-Keepers' Association, which was held in Minneapolis, Minn., Wednesday and Thursday, Aug. 30 and 31, 1911.

Among those who left on the special car from Chicago at 6:45 p.m., Aug. 29th, were Dr. E. F. Phillips, of Washington, D. C.; Dr. B. N. Gates, of Massachusetts; E. B. Tyrrell, of Detroit; M. E. Darby, of Missouri, and Mr. and Mrs. Fred W. Muth, of Cincinnati. At Janesville, Wis., Jacob Huffman, President of the Wisconsin State Bee-Keepers' Association, and G. E. Bacon, of the G. B. Lewis Company, boarded the car. It was a delightful trip all the way from Chicago to Minneapolis, and that part of the convention continued until a late hour that night.

On arriving at St. Paul, a delegation of the Minnesota State Bee-Keepers' Association met us, and accompanied us to Minneapolis. Mr. N. E. France was among the number. Each wore a long white sash on which were printed in large letters, "National Bee-Keepers' Association." They caused quite a commotion as they got on the train. When arriving at Minneapolis, another delegation met us and were "sashed" in the same way.

We all then went to the Vendome Hotel, which had been selected as headquarters.

The special car arrived at Minneapolis about 8 a.m., Aug. 30th. After breakfast, the bee-keepers gathered in the large G. A. R. Hall in the Court House, and spent the forenoon in getting acquainted with each other. Then, beginning at 1:30 p.m., the convention was opened with an address of welcome by Mayor Haynes, of Minneapolis. He gave a royal welcome to the convention, and practically said that, so far as he was concerned, as well as the rest of the folks in Minneapolis, the bee-keepers could have anything they wanted while they remained in the city.

It would be impossible to give an adequate idea of the intensely interesting discussions during the convention sessions. They could be appreciated only by being present. However, the members who could not be there will receive a copy of the published proceedings, which they will enjoy reading, we are very sure.

Secretary Tyrrell had arranged a program which was entirely different from anything the National has ever had before. There was no time wasted in discussing such momentous (?) questions as "What is best to burn in a bee-smoker?" "How to winter bees;" "The 8-frame hive vs. the 10-frame," etc. The questions discussed were almost all of a kind that related to the business of bee-keeping, although there was considerable discussion on foul brood, and the progress being made in different States toward its prevention. One of the sessions was devoted to the marketing of honey, and another to the co-operation among bee-keepers; and then there was one session that took a miscellaneous lot of topics. Such a program could not help being very interesting and profitable, especially to the more advanced bee-keepers. The fact is, that it is almost a waste of time for the National Bee-Keepers' Association to spend its time in discussing primary topics which can just as well be learned from the bee-books. Every one who intends to do anything with bees ought surely to have one or more standard bee-books, and at least one or more bee-papers.

The convention closed with the Thursday evening session, but a large number remained over for the next day to be entertained by the Minnesota Bee-Keepers' Association, whose president is Dr. L. D. Leonard, and C. A. Palmer, secretary. They chartered two street cars and took the visiting members to beautiful Minnehaha Falls and Park, Fort Snelling, Soldiers' Home, and then to St. Paul, where they had luncheon at the Commercial Club. This was very fine indeed, and all was thoroughly enjoyed by those participating in the treat.

After luncheon the company proceeded to inspect the imposing State Capitol Building, which cost something like $4,000,000 when built, but would be in the neighborhood of $10,000,000 if put up at the present prices of building material, labor, etc. It certainly is most beautiful, and any one going to Minneapolis or St. Paul should be sure to see it.

On the trolley ride, Mr. N. H. Emmans described the various objects of interest as we passed along. Mr. Emmans is in the real-estate business in Minneapolis, and keeps a few colonies of bees for recreation. He has a beautiful home about 2 miles from the heart of the city, where he has a fine garden in which he grows various things that are good to eat. Mrs. Emmans had put up 60 quarts of plums of their own production, and some of the trees were still loaded. They had almost half an acre of sweet corn, etc. We took our last meal in Minneapolis with Mr. and Mrs. Emmans, then got the 6:20 train for Chicago, Friday evening.

Mr. and Mrs. Muth were two of the jolliest of the bunch on the trolley ride. Mr. Muth "got off" quite a good story during the ride, but he should have had a megaphone. Mr. H. V. Poore, one of the oldest and most prominent bee-keepers of Minnesota, also accompanied the "joy riders," and said at one time that although he was both Poore and honest, he mightn't always be honest, but was sure always to be *Poore*.

Taking it altogether, the Minneapolis convention was, we believe, one of the best that the National has held in a long time. It didn't equal in attendance the conventions held at Detroit and Albany, but, measured by the real work done in the convention sessions in the interest of a more business-like bee-keeping, we believe that the results will be far-reaching, and most beneficial to the industry of bee keeping on this continent.

The new constitution will be placed before the membership in November for their approval or rejection. We believe, however, that when they come to consider it carefully, they will be glad to approve it, for it will put the National in a better position to do much more for its members than it has been doing heretofore. The new plan of affiliated associations, or branches, will be the means of forming a closer relation between the local organizations and the National. There will then be annual meetings of delegates from local societies, which will make the National more of a business organization, and they will legislate for all affiliated organizations of bee-keepers. There will be more uniformity in practically everything, after the new system is in good working order. We believe that American bee-keepers will be glad to become members of what ought to be a very strong and compact body of those interested in the production of honey.

The present organization is too haphazard, and the National meetings too local to do much in a business way. In fact, heretofore the annual meetings have been mostly social gatherings, and aside from discussing a few matters of some importance to bee-keeping in a general way, it has not accomplished what it should have done. More actual work has been done by the General Manager and the Board of Directors, *between meetings*, and under a constitution that permitted almost exclusively one line of work, and that was the protection of bee-keepers in their right to keep bees. This feature, of course, will be continued the same as before, but the new constitution being broader than the old, will enable the Board of Directors to do other work that must, in time, be of untold benefit to honey-producers.

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Kerosene in the Apiary.—In England it is quite the fashion to use a cloth impregnated with a solution of carbolic acid to subdue bees and keep away robber-bees, but for some reason the fashion has not been much followed in this country. O. B. Metcalf, however, uses kerosene, or coal oil, in much the same way, and values it highly. He says in the Bee-Keepers' Review:

> A great deal has been said about the use of carbolic acid in the bee-yard, and no doubt something about the use of coal-oil in a similar way, but I believe that not one bee-keeper in a hundred knows the real value of coal-oil in the bee-yard. If you are burring your combs or inspecting for foul brood during a dearth, as you sometimes have to, I venture to say that the proper use of coal-oil will keep down robbing at least 90 percent. Saturate a rag as large as a napkin with coal-oil and hang it in a large can, and use this can to collect burs or uncappings in, and no robbers will bother them.
>
> In inspecting for foul brood, or looking for queens, or any such work, lay the coal-oil rag on the tops of the frames so the wind will float the odor from it across the hive. If possible keep the frame you have out in the line of the odor from the coal-oil rag or in the can with it.
>
> Do not believe anything you may have read as to the odor of coal-oil making bees mad. I have used it in the smoker instead of smoke, and it puts them in good humor, so far as I can see.

◆

To Stop Robbing Among Bees.—Arthur C. Miller says in the Rhode Island bee-bulletin:

> "The easiest way the writer has found to stop it has been to put an abundance of syrup or honey a few rods from the apiary and get the bees started on it by walking among the hives with a comb of honey until it was well covered with bees, and then gently carrying it to the food and leaving it. If enough food is put there to keep the bees busy until dark, and the empty receptacles left there for the bees to smell over the next day, the evil is generally stopped without further trouble."

◆

Singeing the Cross Bees.—Those bee-keepers who have out-apiaries and who have not yet advanced to automobiles are likely to be familiar with the annoyance of having a few cross bees persistently following when it is time to go home, and at such a time the bee-keeper is in terror lest the horse or horses be stung, resulting in a runaway and a wreck. O. B. Metcalf tells in the Bee-Keepers' Review how he gets rid of such bees. He takes from his smoker a burning piece of burlap that has been covered by the bees with propolis, or else he saturates with kerosene a new piece of burlap, ties this on the end of a small stick, waves this burning torch about in the air, and the bees promptly fly at the dark moving object, and as promptly fall to the ground with their wings burnt off.

◆

Number of Cells to the Square Inch.—It is common to consider that when a rule laid upon a honey-comb measures 5 cells to the inch there will be 25 cells to the square inch. That will do well enough for round numbers, but when reasonable exactness is required it will not do at all. If the cells were square there would be just 25 cells to the square inch. Now suppose they are round. Take little balls one-fifth of an inch in diameter, and lay a straight row of them. Now lay another row beside this, allowing each ball of the second row to touch only one ball of the first row, and there will be just 25 to the square inch. But shake them together in a pan, and you will find that they arrange themselves in rows with one ball of each row touching, not one, but two balls of the next row. In this arrangement you will find more than 25 balls to the square inch.

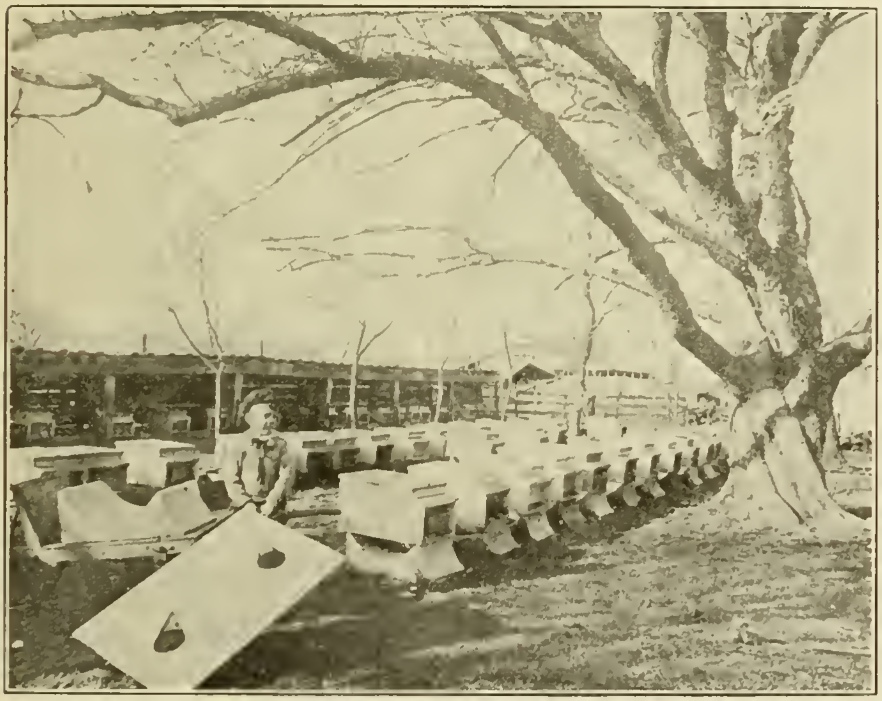
A cell of a honey-comb is neither square nor round, but intermediate, being hexagonal, and when fitted solidly together the number to the square inch will be found to be, as Cheshire gives it, 28 13-15 to the square inch, for cells measuring 5 to the inch in a straight line. A comb 15 by 7 inches, figured the common way, contains 3400 cells on one side; the exact number is a fraction more than 3925—a difference of 525 cells.

* * *

Concrete Hive-Stand — Wire-Screen Bee-Escape.—We have received the following from Jas. A. Stone, of Springfield, Ill.:

EDITOR YORK:—I am sending you an engraving which shows the north part of my apiary. In the foreground is one of my concrete hive-stands or hive-foundations on a wheel-barrow, and under the bee-hives in the front row it will also be seen. Against the side of the wheel-barrow is leaning a box-cover with two wire-screen bee-escapes. My grandson, sitting on one handle of the wheel-barrow, is about 5½ years old, and is there so as to help estimate the dimensions of the box-cover as well as the hive-foundations. The latter are about 12 inches thick or high at the back end, and 11 inches at the front end. The hive rests on the two ends. It is flat on the bottom. It runs straight up at the back end, and is somewhat concave or slanting at the front, thus making an alighting-place for the bees. In hiving bees, I shake them on the ground and they walk up the incline into the hive. I have a mould for making the concrete hive-foundation. The cost of cement for one of these hive-foundations is about 7 cents, besides the sand and gravel. It is made about one part cement, 3 parts sand, and as much gravel as the cement and sand will thoroughly daub—about 4 or more parts.

The bee-escape box-cover can be made from any size box. The bees escape through the wire-screen cones, and in a few hours are all out of the honey placed in the box, direct from the hives, unless the queen has made her way to a super of honey that is put in the box, in which case no escape would work.
JAS. A. STONE.



NORTH PART OF JAS. A. STONE'S APIARY—LOOKING NORTH.

* * *

Buying Honey to Sell Again.—We have often wondered why more bee-keepers do not buy honey to sell again when they run out of their own crop during the fall and winter. It seems to us that it is very unwise for any bee-keeper to be out of honey at any time of the year, if it is at all possible to get it somewhere else, even though he did not make very much profit on the honey bought elsewhere and sold to his customers. We think it is worth while to be able to meet every call for honey so far as possible, even if there is but little profit. If, by buying honey and keeping it on hand, it helps to hold customers until another crop arrives, we think it is the thing to do, and that those who have worked up a demand for honey ought always to do their best to supply it all the time.

In nearly every number of every bee-paper from this month on for the next six months or more, there will likely be offers of honey; and while the wholesale or quantity price is a little higher now than it was last year, it ought not to be so very difficult for those who retail honey to get a little higher price also. In fact, from the way sugar has been advancing in price the last month or so, it would seem that it would be easy to keep honey at a fair retail price.

It may be said that your local trade would not take honey produced elsewhere, as it might be of different flavor. Where the local trade is used to a certain flavor of extracted honey, there is nothing to hinder buying some other mild-flavored pure honey and mixing it with one's own crop, and thus retain the local flavor. It would all be pure honey just the same, and no doubt be just as satisfactory to the local consumers, and doubtless in some cases would be preferred to the local product. Especially this might be the case where white alfalfa honey could be purchased and mixed with some strong-flavored dark or other honey produced locally.

We wish to urge upon bee-keepers everywhere to do their best to keep their honey customers supplied, either from the production of their own apiaries or some that has been gotten elsewhere. By following this method, it will help to make a more even distribution of table honey, and this doubtless will result in a largely increased quantity consumed.

This plan could hardly be followed so far as comb honey is concerned, but in the extracted form there is no good reason, it seems to us, why it may not be profitable both to the local producers and the ones who deal in honey in a wholesale way.

We have believed for years that if the honey produced was more evenly distributed, the price would more easily be kept up to something where it ought to be, and no markets would ever be over-supplied.

We hope that bee-keepers who have had no crop of honey this year, or who will soon be out of honey, will try the plan of buying honey elsewhere and keeping the local trade supplied. We think it is worth attempting, and believe that in the majority of cases it will work out all right.

* * *

Whence Formic Acid in Honey?—It is well known that formic acid is found in honey, at least in most specimens, but just how it gets into the honey has been more or less a matter of guessing. It has been supposed to be in some way produced by the combs; again through the blood of the bees; and even to be dropped from the end of the bee's sting into the cell of honey just before sealing. Dr. Rudolf Reidenbach, a German authority, now seems to show clearly that it is produced directly in the honey itself by oxidation of the sugar that is contained in the honey. This helps to explain how it is that Dr. von Planta found no formic acid in honey just stored, and as much as .0045 percent in honey in old comb. Dr. Reidenbach had no difficulty in getting formic acid produced simply by exposing to the oxygen of the air honey spread out in a thin layer on a plate.

* * *

Our Front-Page Pictures are described as follows:

No. 1.—Oklahoma Association

I am sending a photograph of the bee-keepers in attendance at the first annual meeting of the Oklahoma Bee-Keepers' Association, held at Stillwater, Okla., Jan. 19, 1911.

The Oklahoma Bee-Keepers' Association was organized in December, 1909, and incorporated shortly afterward. The principal place of business is Stillwater, and it has been planned to hold each annual meeting at that place during the Farmers' Short Course of Lectures and demonstrations furnished each year free of charge by the staff and faculty of the Oklahoma Agricultural and Mechanical College of that place. The people of Oklahoma in all branches of agriculture are taking advantage of the high class of knowledge to be secured in this manner, and the attendance will soon be very large. The officials in charge of the course kindly provided a comfortable classroom for the business meeting and program for the bee-keepers, and gave them a place on the general program.

Prof. C. E. Sanborn, the entomologist at the College and Experiment Station, has had quite extensive experience with bees and their diseases, and is an enthusiastic member of the Association. He has charge of the bees of the Station. If Oklahoma bee-keepers will rally to the support of Prof. Sanborn and the Association, much can be done toward "getting in on the ground floor" in controlling disease, etc., in Oklahoma. The Association is thoroughly organized, has drafted a bee-law, and is only waiting for the opportune time for its introduction. In the meantime the support of every bee-keeper in the State is needed, and that support can best be given by sending in the membership to Secretary Arthur Rhoads.

The present officers are: N. Fred Gardiner, Geary, Okla., president; Geo. H. Coulson, Cherokee, Okla., vice-president; Arthur Rhoads, Coyle, Okla., secretary; and G. E. Lemon, Nashville, Okla., treasurer.

N. FRED GARDINER.

No. 4.—Apiary of J. F. Diemer in Winter

The picture I send is of my home yard, and I take pleasure in keeping it strictly up to date in every respect. There are 101 colonies in 10-frame hives. The bottom-boards and hive-bodies are the same length, and for winter the alighting-boards are removed so the snow can not lodge on them and close the entrance.

The honey-house has 5 rooms, but only about half of it shows in the picture. It is on the east side of the yard. The hives face south, and are well protected on the west, north and east. I run for extracted honey altogether.

J. F. DIEMER.

Liberty, Mo.

No. 6.—Apiary of A. A. Augenstein

I am sending a photograph of part of my bee-yard, showing myself enjoying the sweet music of the busy bee.

Four years ago my bees were mostly hybrids, so at the suggestion of the late W. Z. Hutchinson, I purchased one colony of his famous "Superior" stock, and began to supersede all old and worthless queens with young queens from the Superior stock. The result was a wonderful improvement in both vigor and honey-gathering qualities. I shall always feel thankful for the late W. Z. Hutchinson's good and kindly advice.

I enjoy the first page of the American Bee Journal greatly. It is almost like making short visits to bee-keepers all over the world. Success to the old American Bee Journal!

A. A. AUGENSTEIN.

Dakota, Ill.

No. 5.—Mr. Pashek's Girls and Gentle Bees

The picture shows how easy Italian bees can be handled. Those are my own children and my own bees. I am a bee-man, photographer and orchardist. That picture helps to sell nearly all the journals. Nearly everybody is afraid of the bees, and when I show any one the picture, he has no more excuse; and if he is very stubborn, I have some other remedy which will cure him.

The Dalles, Oreg. JOHN PASHEK.

No. 2.—Apiary of F. A. Jackson

My apiary is situated on the De Robly ranch in the northern part of Santa Barbara Co., Cal., 20 miles east of Santa Maria. The enclosed picture shows it, consisting of 90 colonies of bees, with myself standing in the foreground among the live oak trees.

We have no trouble with wintering our bees, as they winter on the summer stands. The bee-pasturage is principally the sage, which yields the water-white honey. The bees are mostly hybrids, but I have 20 colonies of the 5-banded golden Italian bees, which I find the strongest and best producers for this part of the State.

Santa Maria, Cal. F. A. JACKSON.

No. 3.—Apiary of W. P. Keefer

The photograph shows a part of my bee-yard. My business is growing small fruits, and I keep bees primarily as allies in the business, for I find that all the small fruits, as well as melons, cantaloupes, cucumbers squash, etc., need the help of the bees in the matter of pollenization; but I have become so interested in the busy little workers that I contemplate giving more of my time and attention to them, and increasing the number of colonies as fast as I can.

In the picture, from left to right, are Henry Schnell, the writer (W. P. Keefer), and Paul Keefer, my 13-year-old son, who is taking much interest in bees.

Mr. Schnell is also a bee-keeper of considerable note, and is an authority on bee-lore in his district. He is of direct German descent, and gives his bees that careful attention to details characteristic of the race, and which insures him eminent success in that line.

Mr Schnell is also a grower of fancy strawberries, and is no less successful in that line than in bee-keeping. He puts out an article in the strawberry line that surprises the natives. It is a rare treat for me to get with Mr. Schnell and discuss bees and big berries, as seen in photograph.

Summerville, Pa. W. P. KEEFER.

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Chickens Eating Bees.—Louis H. Scholl reports in Gleanings in Bee Culture that he was the proud possessor of more than 100 pure-bred chickens, but he decided they had rather expensive tastes when 20 or 30 of the young birds were catching bees at a time, and by watching he found that "a dozen bees seemed not to appease the appetite of a single bird." It has been said that chickens would eat only drones, but Mr. Scholl says no drones were present, the swarming season having been over for a long time.

◆

Value of Bees in Michigan.—According to the United States census department, bees in Michigan were valued at $446,500 in 1910, and $352,500 in 1900, the increase amounting to $94,000, or 26.7 percent. In the same 10 years the increase in the value of domestic animals was 73.4 percent, nearly 3 times as great as the percent of increase in the value of bees. The increase in the value of poultry was 108.5 percent, more than 4 times as much as the percent of increase in the value of bees. According to the figures given, for every dollar invested in Michigan in bees, $12.57 are invested in poultry.

◆

Bees Do Not Puncture Fruit.—A correspondent of the Connecticut Farmer having said that bees puncture plums, as the perforations "were quite too small and delicate to have been made by the tiniest beak of a bird," Gleanings in Bee Culture says:

> In this he shows his woeful ignorance. The facts are, there are several birds that make very small perforations. One of them in particular, the Cape May warbler (*Dendroica tigrina*), makes an incision no larger than would be made by a common darning-needle. Some of the holes are no larger than would be made by a common pin. We have caught Cape May warblers in the very act of making perforations on grapes, and immediately examined the fruit after the bird had flown, and before any bees were on the job. Of course, the bees later on, if it be during a dearth of honey, visit the damaged fruit and suck the juices out until it shrivels up into a withered mass.

◆

The Matzke Hive-Scraper.—Separators become so daubed with propolis that they can hardly be used the second time without being cleaned off. To scrape them with a knife or a hatchet is such slow work that it has been thought cheaper, in the case of wooden separators, to throw them away after being once used and buy new ones. F. E. Matzke, of Wisconsin, has devised an implement by the use of which the work is so shortened that it is cheaper to clean the separators that have been used than to buy new ones. Upon a block are fastened 4 knives that stand vertically, thus allowing to do at one stroke what might approximately be done at 4 strokes of a single knife. Two years' trial of this tool has proved it to be a good thing.

◆

Queen-Catcher.—In Prak. Wegweiser is described a new device for catching a queen without touching her with the fingers. A short glass cylinder has a diameter sufficient to allow one end to be placed over a queen on the comb. To the other end is attached a small rubber tube a few inches long. The glass cylinder is placed over the queen, and a vigorous suck at the outer end of the tube draws the queen into the cylinder, which is then immediately closed with a plug. Most bee-keepers will prefer to use the fingers, but to some who are inexperienced and timid, or who through any means are in danger of crushing a queen, such an instrument may be very desirable.

◆

Bee-Supplies and Seedsmen.—At a meeting of the American Seed Trade Association held June 20, 1911, Mr. W. D. Ross, of Massachusetts, read a paper entitled, "Seedsmen's Side-Lines." Among the several lines of goods he mentioned that seedstores could profitably and conveniently handle were those for the bee-keeper. His words were as follows, as reported in the Florists' Review of June 22:

> "The bee-industry is also on the increase, and we are going to have a greater demand in the future for bee-keepers' supplies. While there is a lot of detail to this branch, we have found that in a short time our man has become so familiar with it that everything goes along smoothly, and we have added several hundred new customers to our list, not only for bee-supplies but for other goods which they saw while in the store looking for bee-goods. This, I believe, will be a profitable department when once well established. The margin of profit compares favorably with other departments."

Names of Bee-Keepers Wanted.—We desire very much to have the names and addresses of all the bee-keepers who are in your locality who do not now take the American Bee Journal. We would like to get every one of them on our list of regular readers. If you will send to this office the names and addresses of such bee-keepers, we will be pleased to mail each a sample copy of the American Bee Journal. Perhaps you could send in their subscriptions, and thus earn some of the various premiums that we offer from time to time for getting new subscriptions. We feel that every bee-keeper ought to read the American Bee Journal regularly. He would not only be more successful, but would be less of a competitor of his neighbor bee-keepers, if he were more enlightened on the subject of bees and honey. We would appreciate it very much if all who can do so will send us the names and addresses of their bee-keeping neighbors who do not at present receive the American Bee Journal.

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Brother Drone and Sister Worker

That the Canadian Bee Journal has a very bright correspondent who believes in giving proper credit to the "fair sect" is witnessed by the following:

The Honey-Bee

You are belted with gold, little brother of mine,
Yellow gold, like the sun
That spills in the west, as a chalice of wine
When feasting is done.

You are gossamer-winged, little brother of mine,
Tissue-winged, like the mist
That broods where the marshes melt into a line
Of vapor sun-kissed.

You are laden with sweets, little brother of mine,
Flower sweets, like the touch
Of hands we have longed for, of arms that entwine,
Of lips that love much.

You are bettter than I, little brother of mine—
Than I, human-souled—
For you bring from the blossoms and red summer shine,
For others, your gold.

—E. PAULINE JOHNSON, in *Canadian Magazine*.

A subscriber sends us the following it reply to the above:

The Worker-Bee's Reply to the Poet

(*Written for the Canadian Bee Journal.*)

He is laughing at me, that brother of mine,
Whom you have mistaken for me,
And says, "I work hard to be brother of thine,
Though brother I never shall be."

He is belted with gold, that brother of mine,
But gathers no nectar for you.
I bear my three bands, in an honest bee-line,
Returning well laden, 'tis true.

The gossamer wings of that brother of mine
Have never been sullied by work,
That has torn into shreds my gossamer fine,
Though I was ne'er known as a shirk.

Remember, Pauline, 'tis the *sisters* of thine
Who have done all the work of the hive,
And won all the palms in the honey-bee line,
Whether now they are dead or alive.

(*Signed*) WORKER-BEE.

Sugar-Candy for Winter Stores for Bees

For several winters I have been experimenting with candy for feeding bees. I made a candy that differed from the "Good," in that the sugar used was ordinary granulated, and I did not knead it into the honey as strenuously as I might. I mixed it with warmed honey, and put it into cheese-cloth sacks which I laid over the frames. It was quite a satisfactory feed, but there was some waste, for the bees gnawed into the sacks and allowed some to drop down.

I also tried the hard candy mixed with honey the winter before last, but discovered its treacherous nature before it had done much damage. Its failing is that warmth and moisture make it somewhat fluid in character, and it runs down among the bees and ruins them. I can corroborate the testimony that sugar and water boiled into a hard candy is admirable winter food. I have a few colonies on the candy feed this winter, and they are coming out in such condition that *I fail to see how they could be better*. They are colonies in divisible hives. Since I have been working for fancy comb honey that hive is preferred by me.

The bees wintering on honey alone have three hive-sections two containing the colony and stores, and one above containing absorbents. The few I am trying with candy were colonies whose brood-nest was contracted until honey-gathering ceased, so they have but one section with bees and honey. The 10 frames are like the regular Langstroth in length, but are only 5 inches in depth. That being so, I want to deepen the brood-nest a little, so I don't clap a flat cake of candy over them, but cakes made in "Ideal" bread-pans, specially arranged. The illustration enclosed will show that these pans are hinged together so that they bake a cylindrical loaf. When I use them for candy cakes I place them apart so that I can mould 4 cakes, which, I should think, weigh something like 4 pounds each. My manner of placing them on the hives is shown by illustration. Two set across the frames, a half-inch stick under, convex side down, an inch or so apart from each other, and another cake turned over the gap with the flat side down, gives a solid candy roof and lots of surface against which the cluster comes. If the frames below are fairly well filled with honey, 3 cakes are enough. If there is but little honey I would use 5 cakes, arranged as shown in the illustration.

When they have (as mine do) natural stores and candy, too, the candy is first consumed. The moisture from the cluster goes up on the candy and moistens it so that the bees can feed. I have packing over the candy, but *it does not get as wet* as that over the bees on natural stores often does. As I have said, the bees with candy seem in the very best condition. I made a close examination of one of these hives a month ago, and found brood and eggs in two frames. This colony of Carniolans will be a rousing big one by the time I want it to be so.

Eighty of my colonies are wintering on honey, pure and simple, and as I do not extract from the brood-chamber, and we generally have a good fall flow, the bees have grom 30 to 50, or even more, pounds of honey; but if I had a strong demand for this honey, and plenty of help to extract and bother with the candy, I would prefer to have all of them wintered with candy cakes on top, as I have described. I consider it *the ideal way*, and if I were going to use sugar at all, I would not think of giving it in the form of syrup. I do not think that enough emphasis is put on the *absorbent nature* of the candy, which I consider one of the very best features of this method. The colonies are kept drier—consequently warmer. Also, I can see that, for me at least, spring management is going to be simplified. As the honey is left for spring feed, the "bugaboo" of "sugar in the sections" is disposed of. In some experiments the candy was given *to save from starvation*. In mine, it was given *at the time of preparing for winter*, as a part of their supply, which I consider much the better way.

(MRS.) A. L. AMOS.

This is exceedingly interesting. The Good candy with granulated instead of powdered sugar has the advantage that we are a little more sure of pure sugar with the granulated (the pure-food law may change that), and it is more convenient in some places to get the granulated. The disadvantage, as you give it, is that the sugar falls down and wastes. If the bees do not carry it out, but merely let it lie on the floor of the hive, could that not possibly be saved in the spring to be fed in liquid form?

The idea of the absorbent character of candy-cakes is interesting, and still more the idea that the candy will be consumed before the honey. But where the hive is filled up with good fall stores, there ought to be a pretty big advantage to induce one to replace the honey with candy, if for no other reason than to relieve the market of just so many pounds of honey.

From what you say, it must be that you use the double bread-pan, allowing you to make 4 cakes of candy at one time. Likely this is because the single pan would need to have the parts propped to keep them from rolling, although it would cost a trifle less to use the single pans, and also be a trifle easier to get the cakes out of the single pan. In either case there would be a permanent investment of about 5 cents for each cake that would be made at one pouring.

[We wish to say that the foregoing by Mrs. Amos was written several years ago. Since that time she has passed away. It should have been published long ago, but just came to light recently.—THE EDITOR.]

The Sisters Do Bee-Work

I have been thinking for a long time of writing and telling the sisters I would like to hear from more of them.

A man, last fall, asked me if I really did the work in my bee-yard; I said, "Yes, the most of it." He said he did not think that many of them did. The most of them, he thought, did the light part, but had a man do the most of it.

Now, Timothy does not help me at any of the bee-work, only in eating honey. So far as he is concerned, I am no better off than an old maid.

Two of my friends keep bees, and I know they do their own work, for one of them is an old maid, and I was for a long time, and would be yet if it were not for Timothy.

Now, the work is such that almost any woman of average strength and intellect can do it, or the most of it. I try not to have much heavy lifting to do. When it is necessary to lift a hive, if I can't get some one to help at one end, I just get an empty hive and soon put them where I want to—one or two frames at a time—then pick up the old hive and put it in front. One or two whifs of the smoker, and the bees are all in the new place! I never move them, though, unless I just have to—sometimes when they swarm and I want to move the old hive and put the new hive on the old stand.

I take the American Bee Journal and Gleanings in Bee Culture. I don't see how any one can do without one or both, and *then* sometimes I get bothered and want to know something, and I ask Cousin Jimson Ragweed. He is real good to advise one. I don't use a veil or gloves very often. I just wear a sunbonnet and keep the smoker handy. I don't like a veil. I can't see very well with it. The one I have I made out of mosquito-bar, with a piece of silk tulle in front.

I don't get very many stings. Coal-oil will stop the pain the quickest of anything I ever tried. But one time I got one on my foot, and I had to bandage it.

Now, sisters, let us hear from more of you about the work. I know we do work.

MILLET HAY.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

The Commission Man and Honey

The commission man has been belabored by the farm press, and many a writer in the bee-papers has taken a whack at him whenever opportunity offered, but now I want to record two good reports coming from bee-keepers, of their satisfactory dealings with commission merchants.

A Western Slope honey-producer shipped several hundred pounds of comb honey to Denver, and after freight and commission had been deducted the producer received $3.05 per case for his honey. This honey was mainly No. 1 light amber, and was conscientiously graded.

The second instance came from an Arkansas valley bee-keeper who shipped several crates of comb honey, likewise to Denver, and received $3.10 per case.

These two instances show that honey, when honestly graded and packed well for shipment, will bring the producer a satisfactory price. Buyers have been offering $2.50 to $2.75 per case for honey in these localities, so that a higher price was secured than by selling to the carload buyers who merely wish to resell again to Eastern wholesalers.

The Fall Honey-Flow

Bees are "making good" on the fall flow from the third growth of alfalfa, and sweet clover, and are breeding better than common. Predictions are now that colonies of bees in Colorado will go into winter quarters with a good supply of young bees. Eastern Colorado has had warmer weather through early September than has the Western part of the State.

Dr. Phillips' Colorado Visit

Dr. E. F. Phillips came to Colorado direct from the National convention, and visited the bee-keepers in Denver, Boulder, Fort Collins, Colorado Springs, Rifle, Grand Junction, Delta, Montrose, and Canon City. A busy 10 days he had of it, too, making a circuit of over 1000 miles and meeting more than 100 bee-men They fired him with questions, principally on bee-diseases, and he asked questions on Colorado bee-keeping methods Dr. Phillips probably knows more of Colorado bee-keeping than half the men who keep bees in the State.

Why Produce Comb Honey?

One of the chief reasons for Dr. Phillips' visit to Colorado was to find out why we produce comb honey to such an extent. I do not know as he feels sure that he knows just why we do, but I think it is principally because we come nearer getting a fair price for comb than for extracted honey. Comb honey sells more readily for $2.75 to $3.00 per case of 24 sections than extracted does at 6½ to 7½ cents per pound. And I doubt whether you could persuade many Colorado bee--men that 6½ cents for extracted will bring in more cash for labor expended than $2.75 per case or 11½ cents per section will for comb honey. I like to produce comb honey because it is cleaner and nicer to handle.

Garfield County Bee-Meeting

Wednesday, Sept. 6th, Dr. Phillips and the writer met with the bee-men of Garfield county, at Rifle. Nine were present, who represented about 1200 colonies of bees. The crop is not good in Garfield county this year, and will hardly exceed one super of comb honey per colony. There are no extracted-honey producers to speak of. Mr. John Stotts, of Rifle, operates about 600 colonies, and in one apiary is averaging 4 cases or over to the colony, while in another yard he is getting practically nothing.

This (Garfield) country is delightful to look upon, high mesas and sloping tablelands 5 to 10 miles away, with orchards, alfalfa fields and alfalfa stacks spotting the whole. The dry pine and cedar-clad hillsides rising on both sides of the Grand Valley to the high mesas, one of which is called "Book Cliff," from the close resemblance to a book, reach an eminence of 1,000 feet or more. Deer abound in this country, and also bear. The church in which we met had a window which was presented to it by Theodore Roosevelt when on a hunting trip during his presidency.

Probably one car of comb honey will be shipped, while the production of the county will probably total two or three cars.

Mesa County Bee-Meeting

About 30 bee-men gathered in the Court House in Grand Junction, Thursday, Sept. 7th, to talk over the bee-situation with Dr. Phillips and the writer. Mr. William Harkleroad, the county inspector, had done fine work in arranging for the meeting, and every one was interested. Messrs. Elmer Kennedy, Roy Tait, J. A. Green, Wm. Harkleroad, John Gavin and John Wallace were the bee-men most extensively engaged in bee-keeping who were present. Probably no county in the State is so well handled as regards the disease situation for the number of bees. Mr. Harkleroad reports less than 4 percent of the bees inspected during the season as diseased. The disease is well under control. Bees are not doing as well as several years ago when more sweet clover was allowed to grow; the farmers are now becoming too careful of the fence-corners, and alfalfa is being plowed up for beets, potatoes, and orchards.

Bees, however, are still fairly profitable to the practical apiarists, and this year yielded a fair crop, though lighter than last year. Taking the county all over, probably not more than half a crop will be harvested. Comb honey and extracted are produced in this county, and those who have had experience say that three-fourths as much comb can be produced as extracted. Under present price conditions comb honey will remain in favor. A local association was started, and those present represented an ownership of about 2000 colonies.

In the evening, Mr. and Mrs. Roy Tait and Mr. and Mrs. Elmer Kennedy took Dr. Phillips and the writer out for a 15-mile spin in their automobiles, through the fruit-orchards of this incomparable fruit-district. It would do the heart good for every man interested in progressive orchard methods to see this district—trees loaded down with big, sound, well-shaped, highly-colored fruit, and nearly every orchard indicating the careful supervision of the specialist.

From what I gathered in looking over Mr. Tait's apiary, I should say that the bee-keeper's methods are just as up-to-date as the fruit-grower's. The bee-keepers are as prosperous as other business-men, and Mr. Green, Mr. Tait, and Mr. Kennedy each have automobiles. Mr. Tait carries 1500 pounds on the rear platform of his automobile—an E-M-F 30-horse-power machine. He uses a carbolized cloth for removing his honey from the hives, and says he can drive the bees out of the supers on a warm day when bees are flying, as rapidly as he can carry the supers to the automobile and pile them on.

Yellow Jackets and Bees

Yellow jackets are everywhere present in Colorado this season, and reports of these lively little insects "getting away" with colonies of bees are frequent. One bee-keeper says a yellow jacket will clasp a bee between the thorax and abdomen, and bite it in two. Where they cause the most trouble it is necessary to hunt their nests and burn them up. They are a pest in extracting, and are also a serious menace to weak colonies. They sting much more severely than the honey-bee, and fight back when attacked.

"Meadows and Pastures," by Joseph E. Wing, a staff correspondent of the Breeders' Gazette, is the title of a cloth-bound book of 418 pages, devoted to a study of the production, development and care of grasses, as related to meadows and pastures. Mr. Wing made investigations in every State and several foreign countries, besides thoroughly studying the scant literature of the subject. His own extended experience in growing all the common grasses has enabled him to interpret competently and digest a wealth of data and facts, which he presents in a fresh and fascinating style. He pays particular attention to several kinds of clover, mentioning their value to bees. So far as we know, the several pages devoted to sweet clover is the first complete defense of this clover that we have seen in book form. Its growing is encouraged and its value described. This book gives definite instructions concerning every view of the subject. It is fully illustrated, and certainly should be in the hands of every farmer of this country. The postpaid price is $1.50, or we club it with the American Bee Journal for a year—both for $2.30. Send all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

"The Amateur Bee-Keeper"

This is a booklet of 86 pages, written by Mr. J. W. Rouse, of Missouri. It is mainly for beginners—amateur bee-keepers—as its name indicates. It is a valuable little work, revised this year, and contains the methods of a practical, up-to-date bee-keeper of many years' experience. It is fully illustrated. Price, postpaid, 25 cents; or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

BEE-KEEPING IN DIXIE~

Conducted by J. J. Wilder, Cordele, Ga.

Apiary Work for October

This is usually the winding up month for our apiary work, and it is of more importance than the beginning month of next season, for in this month we will make the greatest pull for next season's honey crop.

It is still good time and the last opportunity to introduce better stock in our apiaries, and this important month should not be overlooked, for next spring we would have a supply of drones from this better stock, and our queens next spring would most surely be better mated.

All colonies that have "lagged" during the summer and fall honey-flow, should, by all means, be headed with better queens, for most surely all bees in such colonies are old, and will die out through the winter, and next spring be found weaklings; while if young queens are given to such colonies, they will take a great spell laying at first, and highly populate their colonies with young bees, which assure good wintering and the best possible condition next spring. So much for stock.

What about the other general fall work? All comb-honey supers should be removed, the honey disposed of, and the supers cleaned up and stacked away until next spring. Some colonies in a comb-honey apiary may have stored most of their honey in the supers, and if put away for winter in such condition will most surely be lost by next spring, or dwindled down to weaklings, and will give us no small amount of trouble in building it up. This can be overcome by equalizing the stores among the colonies, for some of the colonies will have more honey than they need, and it can be given to the needy ones.

In apiaries where extracted honey is produced, all the surplus should be removed and disposed of, and the empty comb put back on the hives until settled cold weather, when they should be placed under the brood-chamber, leaving the bees to winter in the top of the hives, for they don't like to cluster for winter with so much air-space above them, and it is detrimental to good wintering. Then, next spring, when they have spread brood considerably, and the queens are ready for additional room, the supers containing the empty comb can be placed on top, and the brood-chamber on the bottom. This makes conditions ideal for great brood-rearing and the storing of honey.

But it might be well to mention right here that a close examination should be made of the stores in the brood-chamber, as the surplus honey is removed, and if any colony should be short of stores, place a frame or so of honey there for winter and spring supply. It is hard to tell just how much stores to leave them, for some colonies will consume more stores during the winter and spring than others. Then, too, in some locations where the honey-flow comes the latter part of February or first of March, but little stores will be necessary.

We have some bees in such localities, and we hardly miss the stores they consume. In such locations as above, just the rim of honey around the brood-nest will be sufficient; but in places where the honey-flow comes later, the bees should be given, or left, from 2 to 2½ full-depth frames of honey. I mean by this that all the stores should equal this amount. Then in the spring the stores can be equalized again, as some colonies will consume more than others. This can be done as we make our usual rounds examining the brood-nests. All the strips or blocks we use to raise the brood-chamber from the bottom-board for ventilation, should be removed, and let the hives rest on the shallow side of the bottom-boards, which is about ⅜-inch deep. This will give the bees about the proper amount of ventilation during the winter and early spring.

The brood-frames should be cleaned off where they have too much burr and brace-comb attached to them, so they can be more easily manipulated the coming spring.

In apiaries where the bees have run short of stores on account of there being no fall honey-flow, should be fed with a syrup made of equal parts of granulated sugar and water. The sugar will melt better if the water is warm. It can be given them in any regular bee-feeder until they have the proper amount stored in the comb. Corn-syrup won't do for this purpose, for it will ferment in the comb and disease the bees next spring or latter part of winter, and cause dwindling.

A Vacation Among Bee-Keepers

At this date (Sept. 11th), I am about ready to take my usual annual vacation, and will spend the time visiting in various parts of Dixie; and I hope to go down as far as Fort Myers, in Florida. It is a great pleasure to me to visit bee-keepers in various sections, when opportunity affords, and equally as pleasant to have them visit me.

It seems to be so pleasant for bee-keepers to meet each other and talk over their business together; and I often wonder why more of it is not done; but I am glad to note that the social feature of our business is getting more general. I hope the time is not far distant when the bee-keepers of Dixie will come together and have some well-attended conventions. I don't know of anything that would help our industry more.

I don't think anything is lost by taking a vacation, if it is properly planned and carried out. In fact, I find a great source of information and inspiration in laying business aside for a few days after the "rush," when it does not require attention so much, and taking a trip off to the seashore or the mountains, and visiting all the bee-keepers possible.

I think every one who sticks to his "bush" properly is due himself a few days recreation, for on return he will be so much refreshed and inspired.

Caucasian Bees—Two Reports

Caucasian bees can't be beat.
R. V. Gantt & Son.
Samaria, S. C.

My colonies of Caucasian bees are all the time boiling over with bees, but I don't get much honey from them. What could be the matter? G. C. Selmon.
Monroe, Ga.

I don't know why your Caucasian bees don't store honey, unless you are in a poor location, and they can't find much nectar to gather, for, as a rule, strong colonies will store honey when there is any in the field, unless they get to loafing, and the Caucasian bees will not do this, for they will gather and store propolis at times when there is no nectar in the field for them to gather. I have never yet seen a colony of them the least inclined to loaf, or even hang out on the front of the hives, unless they needed ventilation.

Will It Pay to Requeen?

I have an apiary of 23 colonies I picked up about the country, and they are mostly black or the common bees, but I have them in frame hives. Would it pay me to buy queens from some one who advertises them, and requeen every colony? Would this guarantee the bees to be enough better to pay me for the trouble and expense?
A Beginner.

I am quite sure that it would pay you to purchase from some breeder 23 queens and requeen your whole apiary; and I think almost any queen-breeder will guarantee his bees to excell the common race of bees far enough to pay for the time and capital expended. I once asked a veteran queen-breeder what was the guarantee of his bees, and he said, "In short, more bees and more honey from colonies headed by my queens."

I believe if you will write to some queen-breeder relative to this matter, he will give you the above guarantee, and if his bees don't come up to the guarantee, he will refund your money, and, besides, pay you for the damage done in the transaction.

Years ago, when I first saw queen-bees advertised, I said that it must be a humbug, and I believe this is the experience of most beginners in bee-culture. It is hard to get the erroneous ideas out of beginners, and as a rule, they have to sweat or experience them out. Such is too often the case on the subject of better stock.

Caucasians vs. Black Bees

Our honey crop in this section has been very little for the past 3 years. Our main honey-flow comes on so early in the spring that we cannot get our colonies strong enough to take advantage of it. I think the Caucasians might build up earlier than our Italians. I notice that our native black bees build up more quickly than the Italians, and enter the supers better, too, and cap the honey whiter; but when hot weather comes on they are inclined to loaf, and require constant care, while the Italians will take care of themselves.

Moore, Tex. O. E. Milam.

I think the Caucasian bees will build up as quick and as fast as the blacks in the early spring, if not quicker, for they compact their brood so much more, and, besides, they will keep pace with the Italians in brood-rearing and storing honey the remainder of the season, and withstand bad weather conditions better.

Almost a Honey-Famine

"Mr. Wilder:—There is no doubt that we are facing a honey-famine, and you ask what is to be done. There is only one thing that can be done, and that is to preach the sermon Mr. Hutchinson used to preach to us—"Keep more bees."

Southwestern Bee Co.

San Antonio, Tex., Sept. 9.

It must be true that we are in the midst of the greatest honey-famine we have ever experienced. Stacks of orders for honey, and none to fill them.

There must be a solution to the critical problem, but as the Texas firm says, preach the sermon "More Bees," and, I might add, let's practice what we preach.

Bee-keeping is surely on a safe footing now. We can set the price on our product and get it, and we can invest in "more bees" and give the necessary labor, and make the business a business, and a profitable one, too. No market and low prices have been a great drawback to the South in honey production. Now that this great hindrance is removed, surely the beekeepers will enjoy great prosperity, and a great number added to our ranks, and bee-keeping raised to that plain of perfection where skepticism can never again reach it.

Wrong Ideas About Locations for Bees

There is a prevailing idea among bee-keepers that they must have their bees located in or near large swamps in order to have them best located. This is a mistaken idea. Bee-keepers passing through here view the country, and often write that they see no bee-range here, for there are no swamps. Well, this is a rather high section of the country, but it is well watered by small creeks and branches, and along them is considerable waste land, which is covered with gallberry bushes, and in them are the ty-ties, tupelo-gum, poplar, and the high lands all between them are the fields of cotton and corn. So all the land is utilized as a bee-pasture except the fields of corn, and my bees get abundance of pollen from it. These varieties of honey-plants conflict but little in their flow; besides, there is a long list of other minor honey-plants.

For honey-production, locations could not be more ideal. Yet to the passer-by it is a poor bee-and-honey country, indeed.

There are large swamps at a distance, and we have some bees located in them, but we get a crop of honey only about every three years from them, and here we get a crop every year. Then, out here it is high and healthy, and transportation is good, while on the swamps it is malarious, and chills and fever abound, and a boat of some kind is about the only way of transportation. Besides being remote, civilization is not so far advanced, etc.

These high sections are to be found almost anywhere in Dixie, and I mention the above to correct the much-mistaken idea that bees must be kept in swamps to expect the greatest returns.

My Imperfections as a Bee-Keeper

When it comes to callings, talents or gifts, there is a vacancy in my peculiar make-up that bee-keeping comes the nearest to filling, and I am proud of my calling and my business, and it matters not how long, tedious and toilsome my task may be, it's all a joy to me.

But the saddest thought I have is, Have I given my business justice, and have I held bee-keeping before the interested world as I should? Well, I have tried. But,.O! my imperfections as a bee-keeper! When I reflect over each day's work, though, as considerately or thoughtfully as I went about it here and there, I made mistakes and blunders that if I had not made would have meant dollars to me, and I console myself with the thought that I will do better tomorrow; but when tomorrow's task is over, no great change for the better has been made, for I have not left storing-room for the bees best suited for their convenience. I could have arranged it more ideally, and increased the returns thereby. Then, too, I could have arranged the brood-nests in certain colonies so that the queens could have occupied them better, and thereby had much stronger colonies for the honey-flow.

Also, here and yonder I could have requeened colonies and greatly increased returns, and many other things too numerous to mention I could have done that would have added so much to my business; and when I take them under consideration, it is a wonder to me that I succeed as well as I do.

Caucasian Bees

The question of better stock is being greatly agitated among bee-keepers at present in Dixie. And the Caucasians are brought in question as compared with other prolific races of bees. I don't know of a better time for testimonies pro and con, relative to this race of bees, and its cross with other stock. There has been a great number of these bees and queens sent out over the country, and good, reliable reports can be made from almost all sections, and we will try to gather up some of such reports and get them in next month.

I have tried them and their crosses extensively for several years, and from time to time I have reported through the bee-publications their good and bad qualities, as I have found them, and that their good qualities out-numbered their bad ones. I have adopted them as my stock, with just enough cross with the Italian stock to give them gray and yellow bands, which can be obtained in the first and second crosses. This combination of color is just as admirable as the beautiful golden Italians. So there is nothing lost in color, but the propolizing quality of the Caucasians is lost, which hitherto has been the leading objection to them. Then we have a strain of bees that will most surely win out.

SOUTHERN BEEDOM

Conducted by Louis H. Scholl, New Braunfels, Tex.

Do Bees Move Eggs?

I was much interested in Mr. Grant Anderson's article headed, "Do Bees Move Eggs?" (page 182). With no desire to provoke controversy with Mr. Anderson, or any one else who thinks differently from myself, I still seriously doubt if bees ever move eggs or larvæ from one cell to another for the purpose of rearing a queen. I know Mr. Anderson is not alone in the belief that bees do move eggs and larvæ from one cell to another. I have read of other good bee-keepers who have claimed to have positive evidence to this effect. I do not doubt the statement of the evidence they claim to possess which causes them to think as they do, but I think there are too many chances to be mistaken.

Having been a careful student of apiculture for 30 years, and having been a close observer, I have never yet had any proof come under my observation that would prove that bees *ever* move eggs from one cell to another. I am aware of the fact that because I have had no evidence to cause me to believe they never do such things is no *positive* proof that they never do, but it is a straw in that direction. I think it would require reason on the part of the bees to move eggs, to steal eggs, etc., with which to rear a queen, and I do not believe bees possess reasoning powers.

I know it is difficult to define the difference between reason and instinct, but there *is* a difference. But I will not take up space here to define that difference. It is not at all strange that the average bee-keeper should at times conclude that bees did move eggs. I think, however, that a really close observer would readily find how queen-cells came into certain unexpected places.

Several years ago I had a colony that became hopelessly queenless. They lost their virgin queen at mating-time. But in due course of time they had a fine queen-cell started—only one. This was an extra-fine cell, with sides nicely corrugated, as all queen-cells should be. I knew in my own mind that these bees had stolen an egg from which to rear a queen, and that later I would have something remarkable to report to the bee-papers, as all the books and journals I had read on apiculture stated that queen-cells built over the drone-larvæ would be smooth, and not show the corrugations on the sides as do those built over worker-larvæ. That this is not always the case, however, has been proven to me more than once since then. I continued to watch this big, fine cell with pride and interest, for I was proud of such a fine one, and was especially interested because I was sure in my own mind, at least, that the bees had built it over a stolen egg. But on the 25th day there hatched out of the cell—what do you think? A big, fine drone—that was all!

I have often seen cells built over drone-larvæ, but the inmate generally dies about the time the cell is sealed, or soon thereafter. Many other similar cases that have come under my observation could be reported where it appeared at first that the bees had moved an egg from one comb to another, but further investigation always showed that the eggs were layed in the usual way, either by a queen or by laying workers. And as to the case mentioned by Mr. Anderson, in which the cells appeared above an excluder, he must know as well as many other bee-keepers, that some queens pass freely through an excluder, and this is the way I account for the cells above the excluder in his case.

In 2 cases have I seen queens lay eggs in queen-cells above an excluder in this way, and I mentioned this in Gleanings in Bee Culture about 10 years ago. So I have positive proof that queens do at least sometimes place these eggs in the queen-cells in these unexpected places, but I have no proof as yet that bees do move eggs. I am not prepared to say they *never* do, but I very seriously doubt it. What say you, Mr. Scholl?

Rescue, Texas. L. B. SMITH.

Not having watched the many colonies closely, as most of the bee-keepers are prone to do, when I have made increase or found colonies queenless for some reason or other, I am not prepared to say whether bees really move eggs, as claimed by some writers, or whether they do not do so, as claimed by others. There is room for more close observation, and I shall watch closer after this myself, if I find the time. My excuse is that I practice extensive bee-keeping to such an extent I have neglected much of the intensive part or such bee-keeping as many follow, and in which they are permitted to watch things closer than I have been able to do.

Another reason is, that such cases do not happen every day, and it is sometimes very seldom that a person stumbles on a case of this kind. I remember only one case that seemed as if the bees had moved an egg to an adjoining comb, and from which a queen (not a "big, fine drone") hatched in due time. I do not know how the egg or larva from which this queen was reared got into the adjoining comb, which was an empty one given to the nucleus when the division was made, and had contained neither brood nor honey, or anything else. The only eggs, larvæ, or brood, that was given to this nucleus was in one comb taken from a strong colony. A lot of queen-cells were constructed on this comb, and all of them were used for making more nuclei, using the one cell on the adjoining comb for one of these also. Now, how did that egg or larva get there? I am not prepared to say, and it has been a puzzle to me ever since—a period of 17 years.

CONTRIBUTED ARTICLES

Mangled Section Comb Honey

BY G. M. DOOLITTLE.

Not long ago I went to see a beginner in bee-keeping, and on going to see his honey I noted that quite a few of the sections had holes torn out of the cappings of the combs in different places. On asking him what caused these places, he said that his honey had gotten so torn in taking it off the hives that he called it "mangled honey."

When I asked him further in the matter, he explained that his crop was not as great per colony as the year before, and that very many more of the combs in the sections were attached to the separators than he had ever known before. He also told me that, do the best he could, the cappings would hold to the attachment, rather than to the combs in the sections, and so in separating them, the nice white sides of the section honey became mangled. This expression of "mangled honey" was something new to me, but the trouble is not new to the most of us who use separators, which includes nearly all of those working for section honey, as there are few at the present time who try to produce section honey without separators.

In further conversation with this bee-keeper he told me that a few of his colonies gave perfect combs, but the majority gave such honey as I was looking at. This was as I used to have matters with my bees; but after a close watching I found that if all colonies were put in the same condition as were those which gave the perfect combs, the result would, nine times out of ten, be the same. I feel that it is the duty of every apiarist having any trouble of any kind with his bees, to put his whole soul into the matter of finding out how to master the same. This is what has made such men as Dr. Miller, C. P. Dadant, N. E. France, and a host of others, "intelligent bee-keepers," by creating in them a desire and a determination to *master* every problem which has come before them during their bee-keeping lives.

From much watching and experimenting, I found that some of the things which contributed toward an attaching of combs to the separators were the following:

First, and greatest to bring on this trouble, lies in not having the hives stand level, for the bees always build their combs perpendicular. Especially is this true where oblong sections are used, the same standing the tallest way up, as, with such, it requires very little out of the perpendicular for the lower end of the comb to come near enough to the bottom of the separator so that the bees incline it still nearer so that they can attach a brace-comb out from it, and attach it to the separator so that such comb may be held stationary. They nearly always look out for bracing in this way where the septum of the comb comes as near as ⅜ inch of any part of the hive. It will be remembered that the most natural home of the bee, while in a state of nature, is "the hollow tree," which is likely to be swayed and tossed about tumultuously with every high wind or thunder-storm of the year; therefore, this well-developed instinct of attaching combs to everything stationary is a very wise provison of Nature; otherwise, with a sudden windstorm during an extremely hot afternoon, while the combs were soft and the honey they contained warm, the whole mass might go down in a heap, to the damage if not destruction of the colony.

Now, it is not necessary that the hive be leveled both ways, unless the combs in the brood-chamber run in an opposite direction from those in the sections; but it is very necessary to have the hive level in the direction of the open sides of the sections, if we would produce the nice section honey required for market in this Twentieth Century. Many think they are able to do this leveling well enough with the "eye," but with the majority of bee-keepers, especially beginners, it is better to use a spirit-level for this work. And what is better still, is to make each stand, to be occupied with comb-honey-producing colonies, from cement and sand, having the same level before it hardens, when no further looking after will be needed for a lifetime.

Then, another trouble arises from the starters put in the sections so as to secure the straight building of comb. If these are put in in a slip-shod way, so that they partly pull off, or fall down, from the weight of the bees before they thoroughly attach them to the top of the sections, poor combs and many braces will be the result. Then, if care is not taken to have these starters run true with the sections, they will be angling enough so that the bees, from the same desire manifested in their tree-home, will swing the edges of the combs around and attach them to the separators near the bottom instead of to the sides of the sections thus making a nasty mess when the separators are moved; and where full sheets of foundation are used, I have known some to be so careless—especially boys or girls who are set at this job without instructing them in this particular—that the edges are left nearer the separators than the sections, when placed on the hives, when it is a sure thing that the bees will attach them to the nearest point. However, in full sheets of foundation and a level hive, we have the greatest prevention against this "mangled honey."

Next in order comes the putting on of sections while the colony is too weak to occupy them fully, these weak colonies commencing on the bait-sections first (where such are given), and then spreading out from there in either direction; but as it is warmest, from the lack of bees fully to occupy the section on both sides of the comb, on the sides next the center, they draw out the cells near the center of the foundation, up and down, first on this inside of the foundation, which causes it to curl at the sides or edges, from no work being done on the opposite side, until it comes nearer the separator than to the sides of the sections, and thus it is attached to the separators instead of the sections where it should be. From this reason many more mangled sections are found where any colony completes only a few than with colonies which complete all the sections in a super in a short period of time.

Lastly, this trouble may come from putting the section supers on too early in the season, before enough nectar comes in from the field for the bees to secrete wax, or even draw foundation, when the colony is in a prosperous condition otherwise. In such early putting on with sections having foundation or only starters, at any time when the bees are not occupied with field-work, they seem to amuse themselves by biting or gnawing away at the foundation or starters, often entirely removing starters and making great holes in the foundation, which results in many imperfect combs, which otherwise would have been avoided. Such gnawing more often results in the twisting of that part or portion of the foundation which is left until it comes nearer the separators than the sides of the sections, when brace-combs result in the same way as has been given before. This putting on of the sections too early in the season can easily be avoided by studying our location as to flora; but as we can have no control of the secretion of nectar, or the periods of scarcity coming after the sections are on, this part of the matter can not well be overcome. But by avoiding all the things which tend toward these brace-combs as far as possible, we shall very seldom have mangled honey, which will be very much to our satisfaction, as well as to a better financial result.

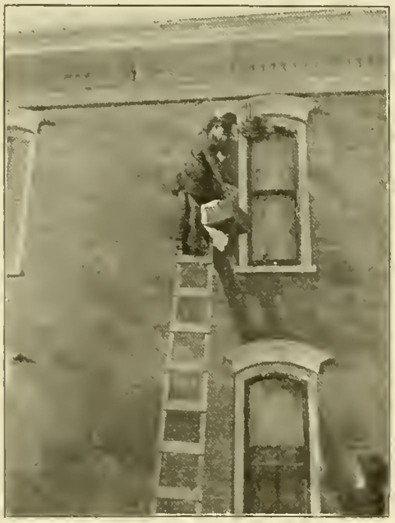
Borodino, N. Y.

Removing Bees from a Window

BY CHAS. F. FEEMSTER.

In the city and surrounding country of York, Nebr., there seems to have been an abnormal number of swarms of bees during the summer of 1910, that were independently hunting homes for themselves. This, perhaps, accounts for the large number of queer selections they made during that season. In our vicinity there are bees in brick walls, squirrel boxes, stone foundations, in the walls of frame houses, and I knew of a swarm that took up its abode in the hollow of a front porch post, and got along admirably until the occupants of the house smothered them. But the most remarkable case that has come to my notice, is that which is the occasion of this contribution.

As I was going down Seventh Street Dec. 28, 1910, I noticed, sticking just above the second-story window of a brick building, a white patch, which I immediately identified as honey-comb. I called on the lady of the house at once, and asked for the privilege of examining the comb. She was very much pleased, for she thought, perhaps, there would be a chance of being relieved of something which had been a terror to them for some time.



Getting Bees Down from a Window.

After a partial examination I found that there were some live bees in the comb, and, I judged, some surplus. I told the lady that I would be back in a day or two and attempt to take away the colony.

When I got home I told my brother that I had found another swarm of bees. "Finding another swarm of bees" had become a joke with us, for we had already captured 3 swarms since the first of August.

We at once began planning how to take them down, and what to do with them afterward. Of course, the apiarist would have said that they were not worth bothering with, but we—perhaps having some of the early instinct in us for fighting bumble-bees, together with a liking for handling honey-bees—were not altogether after the value there was in it. Besides, as it was late in the season, it was apparent that the swarm could not live much longer in the open. Therefore, it would be only a humane act to offer them a better chance by housing them.

December 30 we went down to get our bees. We took with us a box with netting to cover it, and a long ladder. There being no place to set the box in such a way that it would be handy to put the bees in, we tied a string handle on it and swung it to the top of the ladder. After letting a little smoke blow among the bees from a smudging cotton rag, I began trimming off the outer comb. The illustration shows the situation when the first piece was taken off. As I cut off each piece I turned it with the opposite end down, and stood it in the box parallel to its sides, placing a small piece of comb between the ends to keep them from settling together. After I had taken it all down, there was about 7 pounds of honey and a gallon of bees. There was but little flying, and those bees that did make the attempt were generally chilled so that they fell to the ground. Although the temperature had been to about zero, and snow covered the ground, the bees seemed to be in a fairly good condition.

The way in which the combs were arranged gave the bees but little protection from the north and south winds. The main parts were hung from the lower side of the window arch, which projected over the top of the window-frame about 5 inches. As it hung down over the window screen, and, as I remember, was not fastened to the window-frame, there was room for free circulation of cold air behind. There were 4 of these combs parallel to each other, and in them were most of the bees and honey. Just above this and attached to the window arch were several smaller combs built at right angles to it. A few surviving bees were still in these, and perhaps 1½ pounds of honey.

We carried the box and its contents home without any disturbance whatever, rearranged the combs in the box, and placed them in a dark cellar. The bees settled down as well trained bees should, and seemed much pleased with the change.

York, Nebr.

Honey of Modern Production

Written for the Second Congress of Alimentation, at Liege, Belgium, Oct. 4, 1911.

BY C. P. DADANT.

Previous to the Thirteenth Century, honey was the sole sweet known to Europe. Sugar-cane, imported from Syria, furnished for a long time a limited amount of sugar which was considered as a medicament, and was retailed only by apothecaries or druggists. As for commercial glucose, it is a very modern product. On the contrary, honey is a product which was used before the dawn of civilization. However, the apiarist did not obtain it in so attractive a shape as at present. The inventions of the contrifugal honey-extractor, and of the movable-frame hive, have revolutionized this production. It is sufficient to glance through the apiarian treatises published previous to the year 1860, to learn that the only choice honey was that which had been "strained" from virgin combs containing no pollen, and in which no brood had ever been hatched. It was impossible to gather more than a portion of this choice honey, since there was no method for separating it from the combs without breaking them. The pressed honey was the second quality. This was secured by breaking up the combs and putting them under a press. A third quality was taken from the same combs and from the inferior combs by melting over fire, which separated the honey entirely from the wax, but which gave a quality of honey damaged by heat, and from which all the essential oils had evaporated, thus taking all the fine aroma.

The production of choice honey was minimized by these conditions. The second quality was nearly always tainted, and more or less damaged by a mixture of pollen which the press crushed. In our America it was still worse. The greater number of colonies of bees were hived in hollow trees --bee-gums, so called from the fact that the gum-tree, or hyssa, or tupelo, supplied the greatest number of hollow trees. They were sawed into lengths of 18 to 30 inches, with a board nailed on each end, and a notch for the bees' passage. To harvest the honey from the "gum," the upper board was removed, and all that presented a suitable appearance was cut out from above the brood-nest, and the board again nailed on. Then the best honey was strained out and the residue pressed. Thousands of swarms lodged in the virgin forests, in hollow trees that were cut down to secure the honey, supplied honey more or less mixed with pollen, crushed larvæ, and rotten wood.

The centrifugal honey-extractor used by the modern methods, which throws the honey out of the cells after the combs have been uncapped with a knife, furnishes a perfectly pure grade of honey. The pollen, too hard to be thrown out, invariably remains in the combs. If the modern methods of production are followed by the use of supers or boxes containing the surplus honey, the brood-apartment forms a separate nest, where the queen keeps herself, and from which she does not usually move. For the same reason, very little pollen is stored among the surplus honey-combs, the pollen being always stored next to the brood. As a result, choice honey is much more abundant now than formerly, the second and third quality being found only in the cappings that have been removed from the cells with a knife, and which do not produce a tenth of the total. Even among these cappings, one may obtain about as good honey as that produced by the straining process of former times.

It is necessary to insist on this change of conditions in the production of honey—a change of which very few consumers are as yet aware, outside of the producers or retailers of apiarian products. There are no longer upon the markets inferior grades of honey, as far as manner of production is concerned, except among the crops of a few old-timers, who, like Rip van Winkle, have permitted themselves to go to sleep during several generations.

However, there is a great deal of choice in honey of different sources, but this choice is based entirely upon the flowers that produce the nectar from which it is made. Buckwheat honey, boneset honey, and other dark and strong grades will always be inferior, no matter how well cared for, on account of their strong flavor and dark amber color. But clover honey, or that harvested from alfalfa, esparcet in the North; or palmetto, mangrove, in the South, etc., hold the most prominent place. The quality of these grades has increased in a ratio proportionate to the increase of their production. A few very inferior products also harvested by the bees can not be put in the same rank as honey. Such is honey-dew, gathered from the leaves of trees during some seasons: it is sometimes produced from a superabundance of sap in the leaves, but oftener it is a sweet secretion from plant-lice.

Even in the production of comb honey for the table, there is a great difference in modern processes over those of the past, for instead of being delivered in broken chunks, or in more or less damaged packages, the honey is furnished in nice, smooth sections, well sealed and well ripened; it is retailed out uninjured and without loss or leakage.

If, then, the quality is better in every way than of old, why has honey depreciated in price? First, because, as I have explained, the production of honey of best quality has increased in the entire civilized world. But cheap sugars have also made against honey a more or less competition. Many syrups, many compounds, have been adorned with the name of honey, which contain barely enough honey to cover the fraud. Yet commercial glucose, made of corn starch by chemical process, does not contain more than a third of the sweetening power of honey. This is not sufficiently known by the public.

They have argued incessantly over the advantages of low-price sugars and syrups. It is worth the while, for the profit is immense. How many candies, how many sweets of different sorts, are manufactured only with low-grade glucose? The result shows in our grand-children, who often lose their teeth before the latter have attained their full growth. The profession of dentist is becoming daily more important and more indispensable.

It is unnecessary for me to praise honey, which is a superlative word for sweetness. From the Philistines who replied to Samson's riddle by, "What is sweeter than honey?" down to Victor Hugo, who wrote:

> "Life is a blossom, and love is its honey,"

the whole of mankind has agreed upon giving it tacitly the first place among the products which flatter the palate while nourishing the body. Aside from the fabled ambrosia, the food of the gods, which they said was nine times as sweet as honey, and which no mortal ever tasted, nothing is considered superior to honey.

Our ancestors who ate no sweets but honey, were just so much healthier than we, without the services of doctors. It was because honey is a natural product, already partly digested by the formic acid of the bee, as has been mentioned by numbers of scientists who have given to bee-culture the best of their life. Doctor Dubini, a now deceased Italian apiarist, very highly educated and well informed, who wrote a well-known treatise, "The Bee," said of honey that "it gives vigor to the organs, renews the blood-warmth in old persons, gives strength to those who labor, and increases the lucidity of men of business or literary people."

Mr. Alin Caillas, agricultural engineer, in an excellent little pamphlet entitled, "The Treasures in a Drop of Honey," explains in what manner the drop of nectar, composed principally of saccharose, undergoes a partial digestion in the bee's stomach to furnish a sweet more capable of assimilation, "This drop of nectar, concentrated, transformed, has become honey, a complex product, union of the plant and of the living insect, and the fecund collaboration of these two individualities gives us a product the qualities of which are complete."

Honey, elaborated by Nature, may be fitly compared to milk—the first food of the new-born—a healthy product, par excellence. The child braves disease with much more vigor if it has the milk of a healthy nurse, whether she be its mother or not. It is because milk, when fresh and pure, is one of the most easily assimilable aliments. A French writer of popular rural ditties, in singing the praise of his favorite cow, wrote:

> "Le lait de Blanche est une essence
> Des simples de tout le pays
> Il renferme plus de science
> Que tous les livres de Paris."

"Blanche's milk is an essence of the herbs of the whole country; it contains in itself more science than all the the books of Paris." So is honey, an essence of the blossoms of every country, much superior to all the sugars, the candies, and the syrups more or less sweet of commerce. Let us eat honey if we wish to keep healthy and live to a good old age.

Hamilton, Ill.

The Status of Bee-Keeping—Foul Brood

BY DR. G. BOHRER.

On page 112, there is found an article under the above caption, in which I called attention to the progress made in apiculture during the last half century, the pure food laws, the advertising and sale of honey, etc. I wish now to state that in the matter of legislation for the protection of the bee-keeping industry, very much has also been accomplished, most of our States and Canada having fairly good laws upon the subject of the diagnosis and treatment of contagious and infectious diseases, and it is a very noteworthy fact that Ohio, Indiana, Illinois, Missouri and Kansas, and some other States, have all secured legislation of this kind during the last 5 years. But now that we have succeeded in getting fairly good laws for the protection of bee-keeping, only the initiatory steps have been taken. There is yet very much to be learned in regard to the matters of correctly diagnosing and successfully treating the ailments of bees.

I have been asked the question by a very worthy and successful bee-keeper residing in Wisconsin, why it is that in the presence of a good foul brood law in that State there is still foul brood there, getting in its deadly work.

In answering this question, I do not deem it improper to ask another question as a partial answer: Why is it that we still have smallpox, in the presence of vaccination and quarantine work, which is so rigidly called into requisition for the express purpose of stamping it out? All will answer without hesitation that in the absence of a quarantine law rigidly enforced, we would have much more of this dread disease, as well as many more deaths. In the case of foul brood, I have not the remotest idea that it will ever be exterminated in North America, but with a strong law, strictly enforced, there is nothing more certain than that the ravages of this, as well as other bee-ailments, can be very much and very profitably held in check, while, if permitted to go on uninterrupted, bee-keeping would be a thing of the past within a few years. In the case of hog cholera among swine, and glanders among horses, these ailments have been successfully stamped out in any locality where they are met with and combatted by competent persons.

In this particular there is much to be learned by practical bee-keepers, as but very few have had practical experience in treating foul brood, and the same is true concerning the matter of diagnosing the disease. I wish to state here that in treating foul brood, especially of the American type, no sort of slipshod method is admissible; such, for instance, as using supers from infected colonies that are partly filled with comb and honey, or comb without any honey. I am fully aware that it is claimed, and probably correctly, that the Bacillus alvei, or American foul brood germ, is found in the honey only; but it has not been demonstrated that even the smallest particle of honey never gets into a super while removing it from the infected colony; and until this has been proven beyond all doubt or question, I shall insist that it is the safest plan to remove every vestige of comb, wax or foundation entirely away from the hive of an infected colony, and melt or burn it. Of late I adopted the practice of burning combs, honey, and frames, thus making sure the germs of the pest which must make the cure and end of the disease certain. But in doing this, care must be observed in taking the honey and combs from the colony, as in case one bee fills its sac with infected honey and joins another colony (which it often does), the colony it joins is certain to become infected.

The safest method to adopt in removing the comb and honey, is to close the hive of a diseased colony at night, when all the bees are in, and remove it a mile or more away from the apiary and treat them, and after 48 hours give them full sheets of comb foundation, and return them to their old stand in the apiary. In case the colony is a weak one, better destroy it, and burn the honey and combs as already recommended, in most cases, for I can not be led to underrate the amount of harm that may, and often does, come to an apiary in trying to practice economy by saving infected honey and comb filled with it. Bees are so active in the matter of searching for liquid sweets that they will often "steal a march," and succeed in getting a drop of diseased honey when we least expect it, or think it even possible for them to gain access to it.

Now, fellow bee-keepers, the foregoing harmonizes with my experience, which, during the last 4 years, has given me more disappointment than pleasure in bee-keeping. But I shall make my treatment of foul brood more radical until it has permanently disappeared. I think perhaps that I am now rid of it, but I am not absolutely certain about it. I have heard it said by one or two persons, "Treat foul brood as you may, and it will appear again." The reason is, in such cases, that the disease has not been stamped out, as it can not reappear except there are germs present to start it.

In conclusion, I will say to inspectors of apiaries, that in all cases where infected colonies are weak, and hives of poor quality, to burn the whole mass, not even permitting one bee to escape, is, by all odds, the surest and safest. Where there are several weak colonies they may be united and put on comb foundation, and may be fed liberally, in case there is not a good honey-flow.

Lyons, Kan.

Advertising Honey

Written for the National Convention of Bee-Keepers held at Albany, N. Y.,

BY F. J. ROOT.

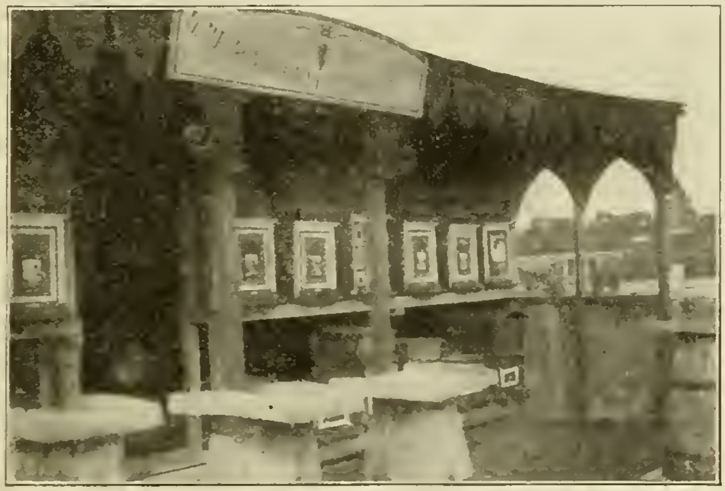
It is pretty generally admitted that the consumption of honey might be augmented by a judicious use of printers' ink. The question has been discussed by members of the National Bee-Keepers' Association for a number of years, and my correspondence has extended from Maine to California, and from Ohio to Texas. I have tried in letters, to set forth certain propositions, and have requested frank expressions of opinion regarding these. My correspondents have acknowledged the value of advertising, and believe that a national "campaign of education" embracing the leading home periodicals and the trade papers will inure to the benefit of every bee-keeper, but—and with this "but" they lead me to believe that so far as the honey-producers are concerned I am, as one of them says, "up against it." They point out the difficulties, and that these exist no one will deny. There must be, I am told, a harmonious co-operation; the National Association must be enlarged; a selling body must be organized that can deal with jobbers and brokers in any part of the country, and to see that no one market is over-supplied; there must be a uniform package used by the members of the Association, or at least a distinctive seal must be attached to every package as a guarantee that the goods will "fill the bill;" the members must have a standard, and must live up to it. There are other questions, too, and last but not least is the raising of the actual money.

I admit that a number of things must be considered in this matter. Do you want this advertising to benefit bee-keepers generally, so that those who put up the actual money will act partly as philanthropists, benefiting the shiftless and stingy, as may be the case? or do you want to make a distinctive appeal to the public to use only the honey bearing a seal indicating that it originated with your members? This is for you to say. Personally, I believe that you ought to advertise honey *per se*. This question and others may well be submitted to your proper committee. I believe that the obstacles which my correspondents have pointed out can be removed; and as to financing the campaign—it is when I mention a sum of money—like fifty-thousand dollars spent during a year—that I meet with the least cordiality, and I must say that if the burden were to be borne by any one, or three, or five, of this honorable body, it would be something worthy of careful sifting. This leads me to the text of this paper—"THREE CENTS A DAY."

Are there not in the length and breadth of this land 5,000 bee-keepers who will contribute for one year (to start with) the sum of 3 cents a day—or $10.95 a year for mutual interests? Or are there not 2500 who will subscribe 6 cents a day, if the 5,000 can not be enrolled? Three cents a day—every day, rain or shine—by 5,000 subscribers will amount to $54,750, and with this fund you have a good foundation. It is not a big amount as compared with advertisers like Post or Van Camp, who plank down a million or more, but it will do very well to start with. If you can't raise it in a week, "keep the pot a-boiling" for a year. When you have some cash in your treasury you can start the wheels going—and they ought to go with increasing vigor for more years than one.

It may be said, and with a good deal of reason, that the matter of raising money is rather outside my argument; that it is none of my business how it is raised. Granting this, but supposing that we have $54,730 to start with, I would tell a good advertising agency what is needed, and give them to understand that they must "make good," or the $100,000 we will have next year will go to some agent who can fill the bill!

I would instruct these agents to construct advertisements that would make the reader's "mouth water." And to succeed, the writer ought to have practical knowledge of the production of honey. He ought to know a honey-bee from a hornet, and to realize that glucose is one thing and honey another. He ought to put the argument into good, terse English, and change the advertisement with every issue. There ought to be an illustration with each advertisement, showing honey in the comb, and extracted, with the progressive steps of production, and with the accompaniment of biscuits, griddlecakes, etc. These advertisements will gradually come to be looked for, and then will come increased call from the grocer, and so through the usual channels will come your reward. Do you like to think that in magazines reaching millions it is stated in big type that "KARO IS BETTER THAN HONEY?" Will you make no effort to counteract such a lie? Is it not worth 3 cents a day to every honey-producer in the country to have such statements controverted?



Roof-Apiary of Costantini Within the Walls of Rome.

We hardly ever see honey on the table in the city, and the reason is largely due to the fact that the housewife does not THINK of it. She can only think of the goods she sees advertised, and that is what we want to do—keep the word HONEY so prominently displayed that millions will see it. I'll wager that thousands of adults in New York City never saw a piece of comb honey, and would not have the least conception of what it is, were a section placed before them. Show them by pictures.

In connection with the magazine advertising a part of the $54,750 ought to be spent with the leading grocery papers. The grocery needs a different "talk" from the one designed for the consumer. He wants at least three points hammered into his head—that Honey is a ready seller—or will be soon; that it is extensively advertised so that the call will be felt in practically every grocery store; and that on every package he sells he will make a decent profit. A reliable grocer has a whole lot of influence with his customers. It has been said that he can "make or break" the sale of almost any new article, depending upon whether or not he can handle it to advantage.

The question will naturally arise in your minds, What return may we reasonably hope for from this expenditure of 3 cents a day? I believe you will increase the production at least 20 percent. What will this mean? I am told that the estimated output of honey is 60,000,00 pounds at present, and if so the increase of 20 percent will amount to 12 000‘000‘ pounds—6,000 tons. Will this justify the outlay? I believe this is a most conservative estimate. If the population of the country is 90,000,000, what do you believe is the per capita consumption? Is it 45,000,000 pounds? If so, it means that 8 ounces of one of the best food products on earth is consumed within the period of 12 months. If an intelligent advertising campaign can't improve this record I shall almost lose my faith in printers' ink, which is founded on an experience of 27 years.

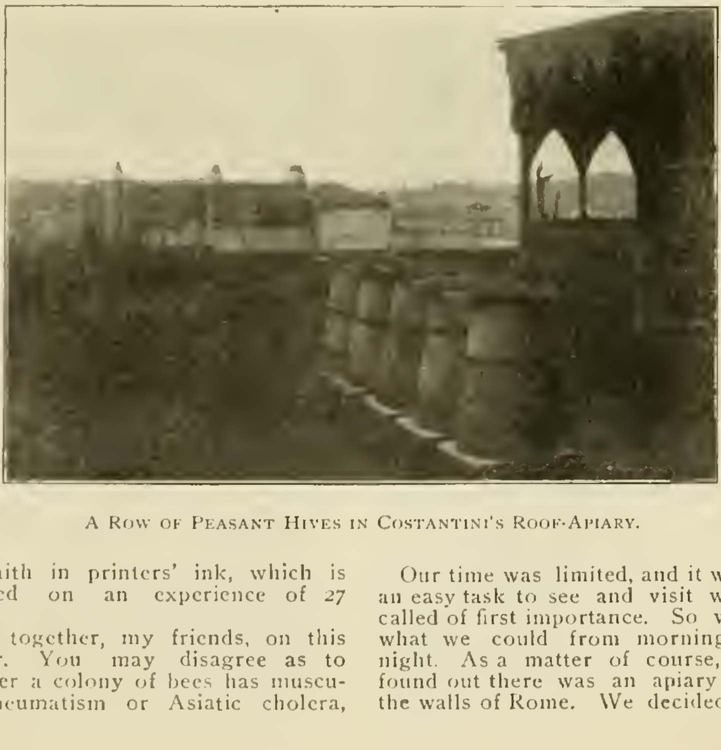
Get together, my friends, on this matter. You may disagree as to whether a colony of bees has muscular rheumatism or Asiatic cholera, and the difference of opinion may not be reconciled. But you can write and work in perfect harmony as to this advertising campaign, because you let your paid agents do the worrying. Your loss—should the whole thing prove a flat failure, which is unthinkable—will be imperceptible, and you can go back to the old way of letting things run themselves. But some will then advertise as individuals, and thus show their faith by their works, and their example will be followed by others, and eventually you will all come to their way of thinking. But "In union there is strength," and a united National Bee-Keepers' Association—united on the question to which this paper refers—can make its influence felt in practically every home in the country. The opportunity is yours. Will you avail yourselves of it?

New York, N. Y.

An Apiary On a Roof of a House in Rome

BY ALEX SCHROEDER.

Last spring my true companion and myself made a trip down the Adriatic to Patras (Greece), and thence to Palermo (Sicily) and to Naples (Italy), and from there we went to the Eternal City, Rome, the metropolis for the whole Roman Catholic world, where we had never been before, and enjoyed our stay most thoroughly. Rome the wonderful, old yet modern city, the incarnation of the old middle ages with the Vatican, and the old times of so-called paganism on one hand and modern life on the other without any transition, fascinated us in a way inexpressibly for a poor pen like mine!



A Row of Peasant Hives in Costantini's Roof-Apiary.

Our time was limited, and it was not an easy task to see and visit what is called of first importance. So we did what we could from morning until night. As a matter of course, I had found out there was an apiary within the walls of Rome. We decided to go and see it. We went one afternoon to the director of the Royal Observatory of Apiculture, Viccolo Brune, and went up six flats higher to the abode of Cavaliere Antonio Costantini, who received us in a friendly manner, and after he had shown us all the more or less necessary implements, and we had tasted his honey, we proceeded together to the roof. Here we found about 60 colonies, and Mr. Costantini informed us that he possessed an out-apiary about 5 miles from town, where he had also about 60 colonies in modern and peasant styles.

There are some shades on the roof under which are various hives nicely painted and covered with glass in various parts, so that when uncovering the glass one can see the bees at work like those Abbott hives exposed in the Crystal Palace near London, England, in 1872, during the Apicultural Exhibition.

You can see, in one of the pictures I enclose, these hives in two rows one over the other, while in front there are some peasant hives. At the right, through the bows, one can see the renovated Pincio and the cupola of one of the churches on the Piazza del Popolo. On the roof in front of the main shade is a big white board on which a large queen-bee is painted under a royal crown, and the inscription, "Ill mio non sol ma l'altrui ben procuro," which has about the same meaning as the American, "Our toil doth sweeten others."

Cavaliere Costantini does a good business with his bees. He provides most of the hotels with honey, and ships bees and hives to all countries. He buys as cheaply as he can swarms in the peasant hives, and beating down the hooks he can easily get the combs, which he transfers to frames, and when fixed by the bees, he puts these frames in a forwarding box freely ventilated, and such he sends to his buyers.

The colonies on top of the house are prosperous. Mr. Costantini spoke of 40 kilos, that is over 80 pounds of honey per colony. While Rome is full of large and beautiful parks and gardens, such returns in honey prove the fertility of the country. "My colonies must not swarm, and I try to prevent it," he said, but it looked very curious when he pointed out to us from the apiary deep below the garden of a fraternity of Priests, where his swarms clustered, and from where he had to fetch them.

It was a very interesting visit which was followed by a call at "Casalina," where a large apiary is at the disposition of agricultural students who pass their fourth year of study there so they can practice agriculture after 3 years of study at the University.

Trieste, Austria, May 30.

CANADIAN BEEDOM~

Conducted by J. L. Byer, Mt. Joy, Ontario.

Coal-Oil or Carbolic Acid for Preventing Robbing

Speaking of using coal-oil and carbolic acid as a preventive of robbing (page 267), some may think that I have had considerable trouble along this line, but such is not the case, however, as for some reason, although having had all sorts of hives, yet I have scarcely ever had any robbing. But tne same motto quoted in connection with what I have said about extracting honey in time of dearth, holds good here also, and it is always best to head off a case of robbing in its incipient stage. To this purpose, a small amount of coal-oil daubed around entrances or other openings in a hive will work wonders. A common feather dipped in the oil is the best means of applying it, and one is soon aware of its value after having tried it.

Nice Rains, But Too Late for Honey

Since sending the last batch of notes for the American Bee Journal, we have at last had some nice rains, and as a result the grass is green once more. While the rains will greatly help pasturage for the stock, it is of course too late to be of much benefit to the bee-keepers, as on the evening of Sept. 12th, we had a severe frost that froze all the late buckwheat. As most of the buckwheat was sown late this year in our locality, this means that much of it will amount to but little for the farmer. Unfortunately the same applies to the bee-keeper as well, as only one of our yards here in the home district yielded any surplus. Around home the buckwheat was sown very late, and as a usual thing we get little from buckwheat after Aug. 20th.

At the one apiary that yielded surplus, there were two or three fields of buckwheat sown earlier than the others, owing to the land being summer-fallowed, and therefore containing moisture enough to germinate the seed. Those fields yielded heavily for about 10 days, and the bees filled the supers in a short time.

As intimated in a former issue, prospects for clover honey in our section are very poor indeed for next season, as about all of the freshly-sown seeds were killed by the extreme drouth that lasted for months in this country.

Bee-Escapes During Extracting-Time

Just at present I am seriously wondering if it would pay to use bee-escapes during extracting times. Many of my friends use them, and say they would not go back to the old way again, while, on the other hand, others say that after trying them they really have no use for the article. Last Monday (Sept. 18th) I went to the Altona yard to extract the buckwheat honey—started work at 9:30 and stopped at 5 o'clock, after taking off 2100 pounds. We had no robbing whatever, and I have been wondering if it would have paid me in this case to have driven the 16 miles the evening before and placed the escapes on the hives, as would have been necessary.

Then, again, it would be necessary to have quite a number of the contrivances to fix up enough colonies to provide for a day's extracting. Certainly the escape method must be all right for a home yard, and especially so if one does not desire to stir up the bees any; however, I have my doubts as to their being a *paying* proposition for a large out-apiary.

In taking off the honey referred to, although not a drop of nectar was coming in, yet there was no robbing, and few cross bees. Just a few rods from us four men were working all day building a silo, and when I say not a bee disturbed them, that will prove how quiet the bees were.

Mrs. Byer a Good "Smoker-Woman"

By the way, I might say in passing, that this year I persuaded Mrs. Byer to let others do the uncapping, as I concluded the work was too heavy for her. While she consented to this, yet she insisted on *helping*, so as a compromise I consented to her assisting me at the hive-work. She has operated the smoker, and after a few days' practise has become so handy at the work that I think she could hold her own with any *woman*, and beat a good many men, in clearing a super of combs from bees.

One reason why we had no robbing at the work during the last day's extracting, when no honey was coming in, was because the bees were not allowed to get a single taste of honey. A bit of comb dropped, or honey daubed on the sides of hives, etc., will raise a commotion in an apiary at a time like this in a hurry. An ounce of prevention is certainly worth a pound of cure, so far as working with bees is concerned at a time when no honey is coming in.

Italians and Carniolans vs. Foul Brood

Of late I have received letters from bee-keepers who have had experience with European foul brood, protesting against the claim that Italians were more immune to this disease than are the Carniolans. Of course, we know that they are no more immune to American foul brood than are other bees. One man who has been "through the mill" with Europen foul brood says that he would choose the Carniolans any time to fight the disease in preference to Italians, as their being so much more prolific is a great factor in their favor. As I said before, I have had no experience in the matter, but as the disease is rapidiy approaching us, I sincerely hope that the Carniolans are good in this respect, for, as is well known, I have a decided preference for this race of bees.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Mating of Queens

1. If a queen is never allowed to mate with a drone, would she lay fertile eggs?

2. Will a queen mate with a drone if she is never allowed to leave the place where she is confined with a drone?

GEORGIA.

ANSWERS.—1. If she lays eggs at all, they will produce only drones.

2. If you mean confined to the hive, no. It is possible she might mate if confined in a tent, but it would have to be an immense tent.

Comparison of Races of Bees for Cleaning Up Foul Brood

Please write an article on the different races of bees as to their good qualities, and for cleaning up foul brood. Are the Cyprian, Carniolan, Banat, Caucasian, and Holy Land bees, good races to clean up and keep bees free from foul brood?

NEW YORK.

ANSWER.—It would take more room than can well be spared to tell all about the different races of bees, if indeed one person may be supposed to have such knowledge; but you will find pretty full information in Root's "A B C and X Y Z of Bee Culture." As to the relative ability to clean up foul brood, it is doubtful that any one knows. It is generally believed that Italians are the best to help keep down foul brood, but there is probably no one who can say just how the other races compare in this respect.

Perhaps "Braula Coeca" or Blind Louse

There is a spider-like insect that clings to the backs of my bees, and in some cases covering the forepart of queens all over, of a reddish color, about the size of a pinhead. Is this the Italian bee-louse? It makes no difference whether the colony is strong or weak. Is there any way of getting rid of them? The temperature gets very high here in summer. Would the heat breed these things?

BRITISH COLUMBIA.

ANSWER.—Yes, it may be *braula cocca* or the blind louse, although I don't remember to have heard of such a case this side of the ocean. It is said smoking with tobacco will make the louse loose its hold. Fortunately it is not so very dangerous. Please send a sample to Dr. E. F. Phillips, Washington, D. C.

Combs Built Crosswise—Colony Stored No Surplus

1. A colony built their combs crosswise of the frames. I want to transfer the bees into another hive with wires and starters. Or would I better get old combs? How would you do if you were in my place?

2. This colony has not stored any surplus this year, and don't seem to be any stronger than it was last spring. What is the matter?

INDIANA.

ANSWER.—1. Perhaps it will be better for you to leave matters as they are until the time of fruit-bloom next year. If, however, you conclude to make the change now, unless there is a good fall flow you will have to feed until the bees have their combs well finished and filled for winter. Drawn-out combs will answer better than comb foundation, as bees do not make very good work building comb so late.

2. It is not easy to tell what is the trouble without knowing more about the circumstances. The likelihood, however, is that the trouble is more with the season than with your bees. You are probably in the zone of dearth this year, like myself. At present not many of my colonies are as strong as they were earlier in the season, and they have given no surplus honey. The bees are not to blame—it is the dearth. If, however, your other colonies have given a good surplus, then the fault may be with the bees, and it may be on account of queenlessness, or it may be something else.

A Breeder Queen vs. Others

1. What is the difference between a breeder queen and any other?

2. How can you tell a breeder from any other queen?

ARKANSAS.

ANSWERS. 1. A breeder is merely a queen supposed to be good enough to breed from. If you find that colony No. 5 is the best colony in your yard, and decide to breed from her, then the queen of No. 5 is your breeder. If a dealer offers to sell you a breeder, it it supposed that in some way he has found out that she is an extra-good queen to breed from.

2. Of course, there is no way to tell a breeder by her looks.

Late Dividing of Colonies

Would Sept. 20th be too late to make a new colony by the plan given on page 275, under the heading: "Double 8-frame Hives," for one living in Northern Illinois?

ILLINOIS.

ANSWER.—Reference to the place mentioned shows that the man who wrote that answer made the inexcusable blunder of understanding that the bees were to rear their own queen, when the questioner distinctly asked how it would do to *get queens* for those supers.

The answer to your present question depends upon whether you have in mind to let the bees rear their own queen, or to do as "New Mexico" proposed—get a queen for the removed part. It will work very well if you furnish the bees with a laying queen, but if you think of letting the bees rear their own queen, then the division should be made about a month earlier, say August 20th. Please understand that this involves the idea that there is brood enough in each story, and bees enough so that when divided neither part will be too weak for winter. If that is the case, you will probably do well to put nearly all the brood on the new stand, especially if you do not at all imprison the bees, and you will also leave the old queen on the old stand with little or no brood. That will leave your new colony with only the younger bees, and so the more willing to accept a new queen. The new colony will at first be much the weaker of the two, but having most or all the brood it will be all the while growing stronger in the next 3 weeks, while the other will be growing weaker.

I am thankful to you for indirectly calling attention to the blunder in the answer to "New Mexico," to whom my most humble apologies are offered.

Winter Cover Over Bees.

1. I want to winter my bees on the summer stands. Which way of wintering do you think suits my climate better, the sealed-cover or absorbent cushion over the brood-chamber?

2. Our merchants have what they call "oilcloth." What is the difference between it and enamel cloth, if any? Would it answer in place of enamel cloth between the cluster of bees and absorbent cushion?

3. Are dry forest leaves as good as anything for the absorbent cushion?

VIRGINIA.

ANSWER.—1. If the choice is between sealed covers with nothing over them, and cushions, then take the cushions. For with nothing over the sealed cover it is cold, the moisture from the bees condenses upon it, and then drops down on the cluster of bees. But if something is packed over the sealed covers to keep them warm, then there is little to choose.

2. Oiled cloth, or oilcloth, so far as I know, is all the same thing as enamel cloth. It may be a question whether you might not prefer burlap or some other porous cloth.

3. Nothing could be much better, unless it be cork chips.

Management for Increase—"Fifty Years"

I am interested in your answer No. 3, center column, page 245. Will you kindly elucidate further in my behalf? I have 10-frame (Hoffman) hives. As to the "another" (2nd) way—

1. Must it be to take away 2 or 4 frames of brood, or may it be 3?

2. You say, put these 2 or 4, in with 3 or 4 frames with small starters: 2 and 4 would be 6, or 4 and 4 would be 8. What about place in hive for 4 or more frames, so as to fill up with 10?

3. Is it better to have the pieces of starters at the ends of the top-bar or away from the ends and sides of the frame?

4. You say, put one hive on the other with no communication between them. Does this mean with a queen-excluder between, or a solid board? Absolutely no communication would mean a solid board; but then, what would be the use of one hive on the other?

The whole matter involved seems to me valuable and worthy of an absolutely exact understanding.

5. I notice that there is a new edition of your book out, "Forty Years" having grown to "Fifty." I have the "Forty Years"; if one rates that at $1.00, please rate the "Fifty" correspondingly, so as to indicate exactly how much better off one would be to have the "Fifty" and give away the "Forty."

PENNSYLVANIA.

ANSWERS.—1. Yes, it may be 2, 3, or 4. In trying to make my answers without taking up too much room, I sometimes make awkward work of it. In the present case the idea is to take away enough frames so that the bees will build only worker-comb.

2. Here again my trying to economize in words makes bad work. Evidently,

what is troubling you is that with the numbers I give, the hive is not filled. I should have explained that it is not necessary to have the hive filled. Suppose we have taken away all but 2 frames from the old hive. Then suppose we put into the hive 3 frames with starters. That will make only 5 frames in the hive, leaving the rest of the hive empty. But the bees will not be likely to build in that empty part before the 3 frames with starters are advanced enough to be taken away. Possibly they might, and it might be better to have more than the total of 5 frames in the hive, but there is nothing iron-clad about the whole business.

3. It is probably better to have the starters a little distance away from the end-bars. With the comb built close up against the end-bars there is less contour for the bees to use for cells, and we want the largest possible *free* edge for this purpose. That is the object of two starters instead of one; for with the two there will be a wavy outer edge, and so a larger amount of edge.

4. Of course there must be something more than a queen-excluder, for there must be no communication. The cover is put on the lower hive, and on this is placed the other hive with its bottom-board. "What would be the use of one hive on the other?" So that there may be no reduction of the strength of the colony, or, in other words, that the colony may be kept together. If, instead of putting the hive on top of the other hive, it be set on a separate stand, then when the brood and bees are brought back again a week or so later the field-bees will go back to the stand from which they were taken. If the one hive is placed on the other, then when the contents of the upper hive are put in the lower hive the field-bees from above will all go to the hive below.

5. I don't know what would be the difference in general. Some would very likely value the new book at $2 or $3 more than the old; while others would not make a difference of 10 cents. It depends upon how much they would care for improvements made during the years between the two editions.

Increase by Natural Swarming

In your answer to "Missouri," page 245, of the August number, you say: "Set the swarm in place of the mother colony and put the mother colony on the stand of another colony. I have tried this scheme several times, each time only to see that young bees of the mother colony are slaughtered by the returning field-bees of the removed strong colony, and I have been unable to find a just cause for such behavior of these field-workers. My bees are Italians and Caucasians. May be the race of bees or locality may make some difference, or else they have not read your answers in the bee-papers! Kindly explain what makes the difference between your bees and my bees. CALIFORNIA.

ANSWER.—Your surmise that your bees have not been in the habit of reading my answers seems to be the only one to fit the case! Seriously, however, I must say that I never heard of anything of the kind before. I have known of a queen being killed by returning field-bees when a weak colony with a queen was put in place of a strong one, but I never heard of the young workers being killed in that way. I don't know of a thing to offer as to cause or cure. Has any one else had a similar experience? and can any one tell the cause, or the means of prevention?

Too Much Rain—A Courageous Bee-Man

I have kept bees for 20 years, as many as 200 colonies at one time, and made them pay until the last 3 years. In 1908 my two yards averaged 100 pounds to the colony. Since then I have not been able to get a sheet of foundation drawn out. The reason is this: In 1909 there was one clear day during fruit-bloom, and 4 partly clear days during clover-bloom; in 1910, one clear day in fruit-bloom and 3 clear days in clover-bloom. This year has been worse, for the bees could not get out of the hives until April 25th. More than half the colonies dwindled down to nothing. The weather was fine then until May 31st, when clover came into bloom. It started to rain and kept it up until clover was through blooming. Then the weather was fine until August 20th, when fall flowers began to come out. Then it started to rain, and has rained ever since. In one week 10 inches of water fell. I often read of the honey crop being cut short by the lack of rain, but give me lack of rain, every time. I never saw a season so dry that I did not get some honey, but I cannot get any honey when I have to wear a rain-coat and rubber-boots all the time.

If the bee-papers and bee-books would tell beginners that more depended upon the weather, than anything else, there would not be so many failures. In 1908 for the finest clover extracted honey, I was offered 6 cents a pound by the honey-sharks—that is what they are. This year I must pay 7 cents a pound for sugar by the barrel to feed the bees. But there is a lot of pleasure in bee-keeping, even if there is no honey. So I am not going to give up. NEW JERSEY.

ANSWER.—I think it was Quinby who said that the best time for a honey-yield was when farmers were just beginning to complain of drouth, and he was probably about right. The high price of sugar (and it's a good bit higher than 7 cents now) is rather discouraging for one who has to feed; but there's a silver lining to the cloud, and the lining is a good bit bigger than the cloud. When sugar was 5 cents a pound or less, it made the price of honey look rather extravagant to consumers. At 8 cents or more per pound for sugar there will be less objection to a higher price on honey, and even if you do have to pay big for sugar to feed you ought more than to make it up on your next crop, for like enough you'll have a bumper crop next year. But don't think that wet weather is the only dread. I haven't a pound of surplus this year and may have to feed sugar, and it's all owing to the drouth.

Moth-Worms in Comb Honey

Did you ever have any trouble with moth-worms getting into comb honey? I had some that got so full of worms after being removed from the hives for a while that I decided to put it back and let the bees clean it up, which they did in 24 hours; but they also "cleaned up" all the uncapped honey. It was during a dearth. VIRGINIA.

ANSWER.—Yes, indeed, years ago I had lots of trouble with worms in sections. I had to brimstone them soon after being taken from the hives, and then again 2 weeks later, because there were eggs at the first fumigation that were not affected, but hatched out later. That was when I had bees that had a large amount of black blood in them. Of late years I have no trouble of the kind, probably because of the amount of Italian blood present. If I had trouble with worms now in comb honey, I think I should use carbon disulfide.

Bee-Stings in the Flesh

Will that part of the bee's sting that goes into the flesh, in the course of time, do any harm? The middle part of the sting is hard to get out of the flesh, and if you watch it you can see it working into the flesh. You can not scrape it out or pull it out—at least I am unable to get it out. What becomes of it where one gets so many stings every year? This has been a question with me: What becomes of these stings in one's flesh? Does one suffer from them in later years, or do they work out again? NEW YORK.

ANSWER.—The part of the sting that you can not pull out, you will probably find is one of the barbed parts, and aside from the poison is no more injurious than a sliver of wood of the same fineness. It is soon thrown out, as any sliver is when left alone, and produces no effect whatever on the system.

REPORTS AND EXPERIENCES

Thyme as a Honey-Plant — 15-Frame Hive

DR. C. C. MILLER:—At home, alone, and a rain day is the excuse for pestering you with a letter. I am enclosing a form of thyme—French or scarlet, I think—to show its manner of bloom. Perhaps you know more about it than I do; if so, all right, but for fear you don't, I am going to tell what I know.

A year ago, in Wilkesbarre, my attention was called to it, that of the whole grand collection on the river front (a park). The bees selected this as their favorite. I brought along a small tuft (rerhaps 1½ inches square), planted and cared for it, and by fall I had a circular bed about a foot in diameter. This lay so close to the ground and remained an evergreen, that I conclued to push it forward, and set plants around the house walls where it is difficult to cut with the lawn-mower, as this would not need cutting when not in bloom. I set out possibly 12 or 15, and the circular patch is now about 18 inches in diameter, and thickly covered with bloom. From early to late I always see bees on it, generally 3 or 4, and the work is continuous on this little patch; they are often there in a light rain. I think it will bloom until fall. I think so much of it that I shall take every opportunity to spread it, unless I find myself much mistaken in the outcome. I do not know if it seeds, or if the seed would grow without special care. I will report at a later date my experience with it as a honey-plant.

We had a severe drouth, almost wiping out clover; now we have a fine stand of clover, but, alas! entirely too wet, and the month nearly gone. Though we do sometimes get clover in July, it is not often longer than a week.

What little work is being done on clover is the stunted red clover, and here the red-clover Italians shows they are a humbug, for the greatest proportion of bees working it are blacks. They worked it more than 50 years ago, as I remember, under like conditions, and especially the second crop.

Honey has been a feeble crop here for the past two years in succession, and it now looks much like another failure, as there is, so far, no super work except a trifle from fruit-bloom, where bait-combs were filled. I always give supers to the very strongest colonies in fruit-bloom.

I am now drifting to a 15-frame hive—Danzenbaker-frame size. The Danzenbaker frame is about the meanest frame to handle ever invented, and, if ever a perplexing thing was put on the market that's the sinner; especially when it calls for much inspection, as in black brood.

Now about this 15-frame hive; bottom-boards 2 inches deep (your plan), and entrance full-depth in summer. The bees just spread out over that big bottom in hot weather—no hanging around outside the hive. There has been no swarmning from them yet; neither has there been any preventive measure taken of any kind so far, and one has been in use over 5 years, a second 4 years, and 30 are in use now.

The idea was to give the bees a "savings bank" to draw on if occasion called. If the hives are entirely empty, it might not give surplus in the supers, but if all combs not used for brood are filled with honey, what then? Must not the surplus come up in the supers, or the bees swarm? or would they become idle and loaf in a honey-flow? I doubt it. Some doubt, I know, for I have taken 150 sections of honey from a single colony, and my locality is not by any means a good one. Land is cultivated closely; farms are small; no large pastures. Buckwheat is all sown about the same time, and never over 50 acres within reach, and no basswood. Thus you see a bee-keeper here must have his dish right side up in time.

It's very easy to get big crops in big-bloom territory, but it's another proposition to get it in a slim one. Now just stick a pin right here, and you dare tell who told you, too! Large bees, or small bees, is a question of feed, *not cells*. Last year, and the year before, my small hives during the severe drouth, when bees roamed the fields and sucked even the juices of wild carrots to live, some colonies threw off bees of half sizes—real dwarfs they were, and soon died off; and at other times, with abundance of honey coming in, young queens were unusually large—all reared from the same cells. If food is abundant they will rear large bees, even if their heads must stick out of the cells! You can't grow large, slick Clydesdale horses in a goat pasture, but you can grow slick goats in a good Clydesdale pasture. And that's all there is in this question of large and small bees. Its *food*.

If you rear queens in one of these 15-frames, the cells look like fingers sticking on the combs. Now and then I get 13 frames filled solid with brood.

A. C. Hunsberger.

Portland, Pa., June 6.

[Mr. A. C. Hunsberger's 15-frame hive that has been in use 4 or 5 years without swarming, will awaken interest. Of course, it may happen that another year will not be so free from swarming, but the size of the brood-chamber ought to help against swarming. Nothing is said about bees building comb in that 2-inch space under the bottom-bars, but the probability is that a bottom-rack or something of the kind is used, otherwise comb would be built under the bottom-bars.

Another question that arises is as to whether there is not trouble with pollen in sections. With frames as shallow as the Danzenbaker, there has been complaint that entirely too much pollen is found in the sections.—C. C. Miller.]

Don't Be a "Back Number"

Although I am a busy person and do not find time to read my papers as thoroughly as I'd like to, I feel that a person who keeps bees is a "back number" if he or she does not know what the world at large is doing in the bee-business.

Miss Elsie A. Cutter.

Grand Rapids, Mich., July 31.

Good Yields for a Drouthy Year

My neighbor and I have had very good yields of honey, and if the drouth had not cut the white clover off we would have had a record-breaker for Missouri. He got something like 1000 pounds from 25 colonies, and I got 130 pounds from 3 colonies.

Sedalia, Mo., Sept. 19. Chas. W. Dale.

Gathering Considerable Honey

Bees here are gathering considerable honey at present from goldenrods and other fall flowers. Though I don't expect much surplus from the fall flow, I think feeding for winter will be unnecessary. There are very good prospects for a steady flow from now on till frost. This will give us hives *full* of *young* bees to winter over, for such a flow will keep the queens laying till late. The early honey-flow here was cut short by a severe drouth. It has been very dry all summer.

From 12 colonies, spring count, I have taken 480 pounds of comb honey, and increased to 21 colonies. I have been keeping bees two summers.

I value the American Bee Journal very highly, and don't feel that I can afford to miss a number. R D. Lewis.

Alexandria, Va., Rt. 3, Aug. 30.

A One-Colony Apiary

In sending you a picture of a corner of my garden, with one colony in it, I hope to be able to help some beginner.

Our prevailing winds in summer are from the west and southwest; the entrance faces a little east of north; a rough ⅜ inch shade-board, 24x30 inches, gives protection enough excepting at noon. The hive is located in such a position that the small box-elder tree shades it only during the noon hour. Although this has been the hottest summer on record in this vicinity, the bees showed no discomfort at any time from the heat.

By observing these bees work on cucumber blossoms at a time when there was no other bloom, I have learned that the greenish color so often attributed to sweet clover honey comes from the cucumbers.

Der Imker's Colony of Bees.

I use an 8-frame hive with a deep section-super for 4x5x1⅜-inch sections. The 8-frame hives have always given me more comb honey, and better finished sections, than the 10-frame hives. My largest yields have come from the colonies that were not over-crowded with bees. My best yield in 10 years was 1000 sections of fancy comb honey from 6 colonies, spring count, and increased to 18; with enough No. 2 and unfinished sections to supply our table needs.

Although I have kept bees in 3 States during the last 10 years, and produced honey by the ton, I do not feel as if I could get along without the American Bee Journal.

Du Page Co., Ill. Der Imker.

Pure Air for Bees—Ventilating Hives in Bee-Cellars

When we take into consideration that the bee will handle from 60 to 120 different batches of air a minute, we then should consider what kind of air we are furnishing them to live on.

This old ex-miner thought it might interest a few bee-keepers were he to give them a hunch on air, and the difficulties in distributing it into dangerous places.

You, who have always had all the air you needed, know nothing about being placed in a position where there was a premium on it. Miners, and bees, often find air in a condition not fit to live in. Impure air, foul air, has created many troubles for bees; it has also put together many a kit of tools, and sent the miner off roving for a more healthy supply of it. It's queer to me, after our best doctors have picked on the pure-air cure for tuberculosis, that bee-keepers never say a word about it to help fight this plague of foul brood. Suppose mine-owners would kill off the old miners who were afflicted with effects of foul air (as bee-keepers do their queens in diseased colonies), do you think that would help their mode of ventilation, and help to make good the cause? I guess not. When and where did foul brood orignate? It's my candid opinion it never originated where bees had access to swarming, which is the only remedy that affords the queen relief—the health-resort plan. But the wise bee-keeper who resorted to strategy and created plans which deprived her of this relief, was the orignator of it, for he made her abide by conditions that he (the bee-keeper) would have fought tooth and toe-nail had he been obliged to have dwelt in similar conditions. Let's give the bees all the pure air needed, and I know we will then get the better of the plague, the same as we do with consumptives.

Apparently, Dr. Bonney doesn't think much of the Iowa cellars for bees (page 81). Too many think the only requirement is to ventilate the cellar. They never take into consideration the most essential point of ventilating the hives in the cellar. Oxygen constitutes about one-fifth of the atmosphere. It is the active and essential gas which supports life. Any reduction from the amount normally present constitutes the most serious deprivation. In a closed condition the percentage of oxygen has been known to become as low as 20.35 percent. When the percentage of oxygen is as low as 20.60, the air is very foul. Pure air carries 20.96 percent of oxygen. Lack of wind-pressure creates poor circulation in our hives in the cellar, but this is easily overcome where one knows air, and how to distribute it in dangerous places. Were owners of coal mines to adopt the same principle of ventilation which bee-keepers have, there would not be coal enough dug to roast the fish our fishermen take.

Whenever you think the air will circulate freely in and out a single hole, then your thinker needs fixing, especially when you have inside such a power of heat as a strong colony will create.

For illustration take an upstairs where there is no stove. The weather is cold; a good, hot fire downstairs; we open the stair-door, and immediately the hot air starts off upstairs, and the cold air comes pouring down; but when we undertake to warm up the downstairs by placing the heating-plant upstairs, we then fail in the undertaking. Hot or warm air is more buoyant than cold—it wants to ascend; it will never descend unless force is applied.

Your hive is the same—ventilation from below; it is sealed and a hot-air retainer through the principle of buoyancy. A strong colony will create heat, also require a lot of oxygen. When the cellar is warm, the bees consume the oxygen in the hive, then they fan and coax into the hive more oxygen, and by so doing they have a further lease on life.

When the cellar is cold, the bees will need as much oxygen as usual, but they soon use up what they have, and then trouble starts, for they must retain life and make use of more honey to fill the want of oxygen. Later on they become gorged with the honey. They will not fan or make any attempt whatever to entice fresh air into the hive, as they do when the temperature is high. There is the sticker with a cold cellar; but where a natural circulation takes place these bees in a cold cellar will fare equally as well as those in a warmer cellar. They die quietly in a cold cellar.

Last winter my bees had a cold cellar, but they all had deep hive-bottoms with each end open. I never had so few dead bees on a cellar floor, never had so little stores consumed, and never had them in a condition these were when I put them out; and the best proof of the job was, I never before had so little spotting up the surroundings with excrements. They were fed principally upon pure air, and I have come to this conclusion that a bee in a cellar will winter on a drop of honey, providing it has all the pure air it needs.

One of the foremost effects of an impure atmosphere is a lowering of the vitality, and thus decreasing the bodily resistance. Diseases progress more easily, rapidly and fatally, and have a tendency to spread from animal to animal in an impure atmosphere. You who are fighting foul brood should not forget this. This old ex-miner predicts that you will never clean up that plague until you adopt and take pure air into consideration.

After having had the experience I had

with foul air in mines. I am glad to believe that impure air is today the chief cause of many troubles pertaining to bee-keeping. Dr. Miller tells us he had quite a few colonies in his cellar which hung far below the bottom-bars. This reminds me of mine experiences. When we were working far ahead of circulation, we would invariably go to the parting of our place, to eat our lunch, where the air was more pure. His bees found the air much purer down there than it was up overhead. He uses a deep bottom with one end open. Had he opened wide the other end, he would have had these clusters higher up. The air in the cellar is never at a standstill, whilst you may think it is; but you are mistaken if you do. It is continually on the move, like the tide—ebbs and flows—but the single holes never get the full benefit of this movement, for there is not pressure enough to it to force much displacement of hot air within. Had the barrier at the opposite end been removed, then the movement across the bottom would have taken place, and his bees would have had the benefit.

I use my poorest plan of ventilation in my cellar. I have three other plans which give circulation up over the top-bars and just under the supers, right where it is needed most. I may tell later how it is done,

I can not put this in as fine a shape as the staff correspondents do, for the reason that while those of three-score were attending high-school, I was trudging off down the path leading to the coat-pit, dinner-pail in hand, where I took a 20-year course in one of the best air-experiment stations our land affords—a coal-mine. Give me a light, somebody, and we will see what the shot has done.
J. P. BLUNK.
Moorland, Iowa.

Northern Washington Conditions

You are getting so many gloomy reports that perhaps it will be a pleasant surprise to learn that we are having the best honey season since I have been in this State (nearly 3 years). At this writing the hives are chock-full of that beautiful snow-white comb, and it is just bulging with new, sparkling honey; in fact, one of the heaviest flows I ever saw.

Bees wintered very poorly, but all hives having young, vigorous queens built up very rapidly with the coming of warm weather. In June there was some swarming, and the latter part of the month a slow but steady flow started up, lasting about 3 weeks. It then slackened off, but not entirely, enough honey coming in all the time to keep brood-rearing going in great shape; so, with the coming of the last flow some 10 days ago, the hives were just boiling over with bees, and now we are reaping the benefit.

Alfalfa is not grown here in sufficient quantities to furnish any surplus, but our early honey-flow from wild flowers is about the same quality. The heaviest flow, which generally comes in August, is not quite so good. It is produced by a curious sort of plant which grows in great profusion along the rocky flats of the Columbia river. This is the curious fact about it: It thrives best right among the rocks and gravel, with not a particle of soil about the roots. It requires to be submerged by the water from the swollen river from two weeks to a month, after which it springs suddenly into bloom, transforming the desolate, rocky bars, as if by magic, into a beautiful shimmer of gold.

On account of its peculiar requirements, the range of this plant is restricted to the lover river-levels, otherwise it would be our most important honey-plant, as it yieds considerable quantities of nectar every season. The only requirements for a honey crop are —a good force of workers, and suitable "flying" weather at the time of bloom.
J. D. YANCEY.
Bridgeport, Wash., Aug. 26.

"Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, $1.00; or with the American Bee Journal, one year—both for $1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for $1.25. Send to the American Bee Journal.

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FOR SALE—52 cols, Bees in 8-fr, hives. Bargain. W. E. Boyd, Georgetown, Texas.

QUEENS from New Hampshire, 50 cents.
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FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey.
5Atf Ogden Bee & Honey Co., Ogden Utah.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address,
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FOR SALE—50 colonies bees in 10-fr. hives in good condition. Price on application.
9A2t E. H. Canfield, Carson City, Mich.

INDIAN RUNNER Duck Culture Book. Information that beginners are looking for, (Special price, 50 cents.) Catalog for two stamps. Levi D. Yoder,
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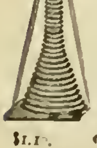

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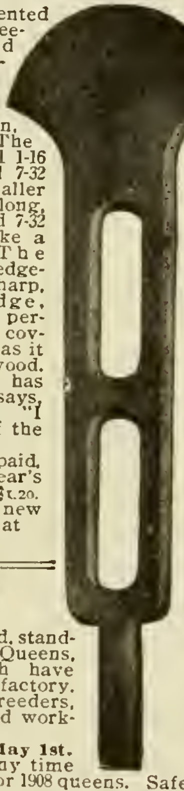

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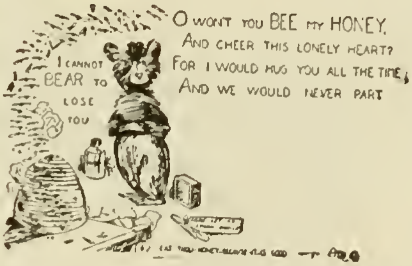
I CANNOT BEAR TO LOSE YOU
O WONT YOU BEE MY HONEY,
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Tennessee-Bred Queens

All from Extra-Select Mothers, Davis' Best, and the Best Queens Money Can Buy

39 Years' Experience in Queen-Rearing.
Breed Three-Band Italian Queens Only.

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	1	6	12	1	6	12
Untested	$ .75	$4.00	$7.50	$1.00	$ 5.00	$ 9.00
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The Very Best Breeder		$10.00
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Nuclei—no queen—	1-fr.	2.00
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Select the Queen wanted and add her price to the price of the Nucleus or Full Colony.

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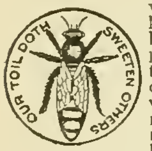
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Directions for building up weak colonies, 10 cents.

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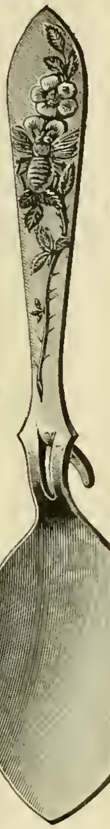
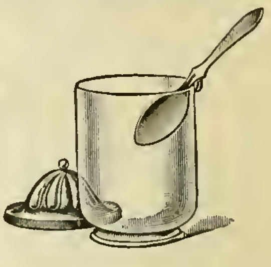
An English Honey-Spoon



About three-quarters size.



Over in old England they have a handy honey-spoon, or at least a spoon that has a device in its handle that will prevent it from dropping down in the jar of honey on the dining-table, thus soiling the fingers and spoiling the table-cloth. It is a very ingenious idea, and should have extensive demand among honey-consumers, especially bee-keepers. It is well plated on high-class nickel, and has a beautiful raised design on the upper side of the handle, as indicated in the picture herewith. We have secured some of these very unique spoons, and will mail them at 90 cents each. Or, we will send spoon and the American Bee Journal one year—both for $1.75.

The spoon would be fine as a gift for Christmas, birthdays, etc.

The editor of the Bee Journal has used one of these spoons for a number of months in the honey-glass which is always on his table, and he would not like to be without this spoon again, as it is so convenient, and also unusual in this country. We can fill orders promptly now. You certainly would be pleased with this honey-spoon, and so would any one to whom you might present it. Send all orders to,

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From the Sunny South

Three-Bands and Goldens bred in their purity.

Hundreds of fine Queens ready March the First. Untested, 75 cts. each; six, $4.20; one dozen, $7.20. Tested Queens, $1.25 each; six, $7.00; one dozen, $12.00.

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This is G. M. Doolittle's master-piece on rearing the best of queens in perfect accord with Nature's way. It is for the amateur and the veteran in bee-keeping. The A. I. Root Co., who ought to know, say this about Doolittle's queen-rearing book:

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Mr. Doolittle's book also gives his method of producing comb honey, and the care of same; his management of swarming, weak colonies, etc. It is a book of 126 pages, and is mailed at the following prices: Bound in cloth, $1.00; bound in leatherette, 75 cents.

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We offer a cloth-bound copy of this book with the American Bee Journal one year—both for $1.50; or a copy of the leatherette-bound edition, with the American Bee Journal one year—both for $1.25. The cloth-bound book given free for getting 3 new subscribers at $1. each; or the leatherette-bound copy given for 2 new subscribers.

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Root's Supplies for Bee-Keepers.

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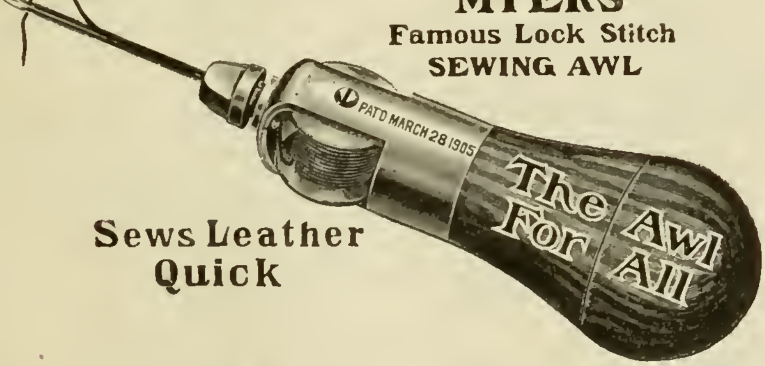
Is designed particularly for farmers' use, but it will be found a time-saver and money-saver in nearly every household. It is not a novelty, but a practical hand-sewing machine for repairing shoes, harness, belts, carpets, rugs, tents, awnings, canvas of all kinds, gloves, mittens, saddles, etc.; you can also tie comforts. The Awl proper is grooved to contain the thread or waxed end, and the point being diamond shape will go through the thickest of leather, green or dry, any thickness.

The "Myers Awl" can be used with either straight or curved needle, both of which come with the outfit, and veterinarians will find it indispensable for sewing up wire cuts in stock. The "Myers Lock-Stitch Sewing Awl" is a necessity for the people; can be carried in pocket or tool chest; nothing to lose, always ready to mend a rip or tear. Better than rivets because it is portable. Can be carried in mower or harvester tool-box, threshing kit, or anywhere. If you save one trip to town for mending, you are money ahead. Every farmer needs one, every man who teams needs one. It is the most practical hand-sewing machine for actual use ever devised. Put up with straight and curved needles, waxed thread, illustrated book of directions, and everything ready for use.

MYERS
Famous Lock Stitch
SEWING AWL



Sews Leather Quick

Our Special Offers of this Famous Sewing Awl.

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Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

My Queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

I am Now Filling Orders By Return Mail

and shall probably be able to do so until the close of the season.

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The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

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I Love My Clover Honey, but Oh You Sweet Spanish-Needle!

Our Spanish-Needle is a hive-ripened article of clear golden color and rich, genuine honey-flavor. Send for sample, or better, order a sample case and give yourself and your customers a treat with this delicious honey. Single 120-pound case, 9½c per lb.; 5 cases at 9c.

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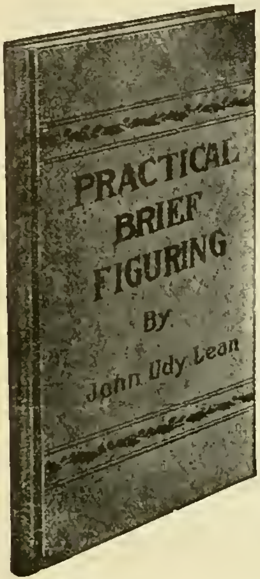
These Books would help you much



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"First Lessons in Bee-Keeping" SEE PAGE 291

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I bring only 15¢ per lb.
ROOSTER 4 lbs.
I bring 30¢ per lb.
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CAPONS bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

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Pay Cash and Save Six percent

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You can Buy Now at a Lower Price than you will be required to pay during the next year

This discount applies to goods listed in our general catalog except as follows: Paint, Porter bee-escapes, Bingham smokers, bees, queens, printed matter, cartons, honey-packages, tin and glass, bushel boxes, hot-bed sash, honey-labels, seeds and such seasonable goods. Where a large general order includes some of the excepted articles, not exceeding ten to twenty percent of the entire order, the discount may be applied to the whole order.

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We are the largest manufacturers of bee-supplies in the world—manufacturing everything from section-boxes and bottom-boards to honey-extractors, comb foundation and comb-foundation machines. More than 100 articles used by successful bee-keepers are listed in our annual catalog, which may be had free for the asking. Get acquainted with **Root** supplies—test our service.

THE A. I. COMPANY,
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CARNIOLAN QUEENS

Bred from Best Imported Strains.

These bees are large and very gentle. Some of the colonies can be manipulated without smoke or veil.

PRICES

UNTESTED
One, 75 cts. Six, $4.25 Twelve, $8.00

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One, $1.00 Six, $5.50 Twelve, $10.00

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"FALCONER"

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My strain of bees is the result of many years' breeding and selection. I believe they are equal to any, and surpassed by none. They are long-lived, winter well, breed early, and are unexcelled honey-getters. The workers are long-bodied, good-sized bees, uniformly marked with bands of orange yellow. They are good comb-builders, gentle and easy to handle, and yet protect their homes from robbers. You will make no mistake in introducing these queens into your apiary. I guarantee safe delivery at your post-office, and make a specialty of long and difficult shipments. I endeavor to keep a large supply of queens on hand. Prices as follows:

Untested—1, 60c; 6, $3 25; 12, $6.00. Select Untested—1, 75c; 6, $4.25; 12, $8.00. Tested—1, $1.25; 6, $5.50; 12, $12.00. Select Tested—1, $1.50; 6, $8.00; 12, $15.00. Two-comb Nuclei with laying queens, $3.00 each; 3-comb Nuclei with laying queens, $3.50 each. Discounts on large orders. 7A4t

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200 to 300 per month. Virgin, 75c; Untested, $1.00; Tested, $1.25; Select Tested, $2.00; and Breeders, $3.00. Nuclei, Full Colonies, Bees by the Pound. Have letter from State certifying my bees are free from foul brood.

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DITTMER PROCESS COMB FOUNDATION

Has a special department for **working wax into Foundation for the bee-keeper.**

A Postal will bring you full information telling why DITTMER'S WAY is cheaper than selling your Wax and then buying your Foundation.

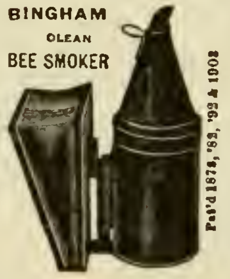
Remember we give a very reasonable
Discount for early fall orders. . .

All Other Bee-Keepers' Supplies Always in Stock.

Gus Dittmer Company, - Augusta, Wisconsin.

HAND-MADE SMOKERS

BINGHAM
CLEAN
BEE SMOKER



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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
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The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

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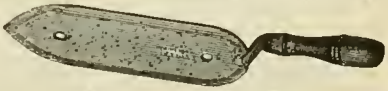

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THE FAMOUS Texas Queens!

Will be ready about March 1st. My

Famous Banats

are unexcelled for Gentleness, Honey-Gathering, Prolificness, and as Early Breeders.

I also have the well-known

3-Banded Italians

carefully selected and bred for Business. All Queens guaranteed Pure and Free from Disease. **Prices:**

Untested—each, 75 cts.; per dozen, $8.00
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If you wish to swell your means,
Just try my Famous Texas Queens

GRANT ANDERSON,
2Atf **San Benito, Texas.**

The Campbell System

INSURES your crop against **DROUTH**

Our experience in 1910 and 1911 has proved that good crops can be grown with less than eighteen inches of rainfall. Those who followed the **Campbell System** in 1910 had a crop in 1911.

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Campbell's publications explain the system.

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Combination Price - - -	$3.00

Address,
Campbell's Soil Culture Co., Lincoln, Neb.

When you write ask about the **Campbell Correspondence School.** 8Atf

Please mention Am. Bee Journal when writing.

Back Volumes of Am. Bee Journal.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal,
117 N. Jefferson St., Chicago, Ill.

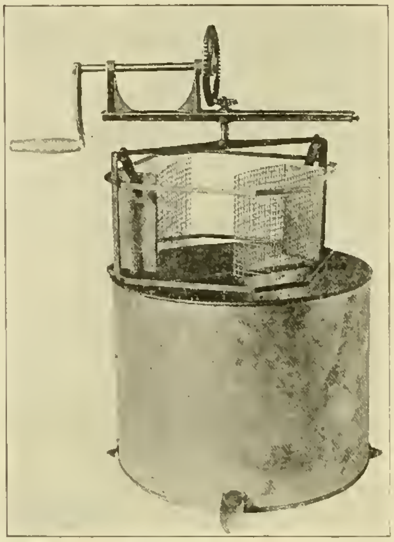
Section - Honey Extractor.

Five or 6 years ago I had some 50 or 60 supers of unfinished sections on hand in the fall. I tried to extract them in a frame in a regular extractor, but the sections became more or less mussed up, so I constructed a little extractor with baskets, and to my surprise I was able to clean the sections of honey and use them the next season. Besides, I had extracted about 10 to 12 gallons of honey every night after supper, with my little boy helping me. It convinced me that a device of this kind would be profitable and useful for all comb-honey bee-keepers who might want some extracted honey, besides cleaning up unfinished sections. I now have gotten up a few of these honey-extractors with the reversible baskets, which work even neater than the first one, but it costs a little more. It can be used for all standard sizes of sections, from 4¼x4¼ to 4x5 or 3⅝x5 inches. The picture herewith shows the extractor Can, the section baskets, and also the gearing, the latter being lifted out of the can for the purpose of showing in the picture. It is all made of metal, very strong and durable.

I can furnish this extractor at the following prices: For the reversible style, $4.50; the non-reversible, at $3.00. These prices are for the extractor boxed, and f. o. b. Chicago. As the weight is only about 10 lbs., it would better be shipped by express.

Section Uncapping-Knife, 50c

Address all orders to,



A. H. OPFER, 117 North Jefferson St., Chicago, Ill.

A Few Dollars Invested on Easy Terms in a

Twin Falls, Idaho, Orchard

will insure

An Income For Life

sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

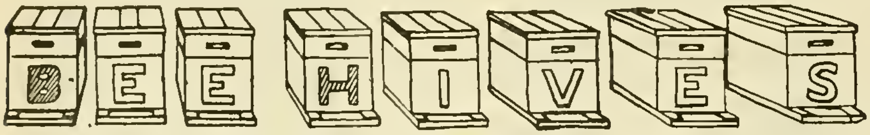
A Source of REVENUE

Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

By calling at our office, or writing us, you can obtain full information.

Twin Falls Co-operative Orchard Co.

881 Stock Exchange Bldg., Chicago, Ill.



Are our Specialty. Winter your bees in **Protection Hives.** Liberal early-order discounts.

A. G. Woodman Co., Grand Rapids, Mich.

STANLEY is to the Front with BEES and QUEENS

32 Years a Queen-Breeder. My Specialty is Choice Breeding Queens.

Choice Breeding Queens, Golden, each, $3.00; 3-Banded Italians, $2.00.
Golden and 3-Banded Tested, each, $1.25; dozen, $10.00.
Carniolan, Caucasian, and Banats, each, $1.25: dozen, $10.00.
Warranted Queens of the above Races, each, 75 cts.; dozen, $7.00.
Virgin Queens of the above Strains, 25 cts. each.

These Queens are sent in a Stanley Improved Introducing Cage. These Cages are well worth what I ask for Queen and Cage.

Arthur Stanley, Dixon, Lee Co., Ill.

Wanted

WHITE HONEY

Both COMB and EXTRACTED

Write us before disposing of your Honey Crop.

◈ Beeswax ◈

—WANTED—

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Idaho Honey-Producers' Association,
IDAHO FALLS——IDAHO

Water-White Sweet Clover

HONEY

Comb or Extracted

BY THE

Can or Train-Load

For Prices, address 8A3

H. A. Anderson, Sec'y,
At the Rigby, Idaho, Office.

Please mention Am. Bee Journal when writing.

Large Quantities of Both COMB and EXTRACTED

HONEY WANTED

Write us for Price, stating Quantity and Grade.

American Butter & Cheese Co.,
612-14 Broadway, CLEVELAND, OHIO.

Engravings for Sale.

We are accumulating quite a large stock of bee-yard engravings and other pictures used from time to time in the American Bee Journal. No doubt many of them could be used by bee-keepers in their local newspapers, on their letterheads, on souvenir cards, or in other profitable or interesting ways. If we can sell them it will help us to pay for others that we are constantly having made and using in these columns.

We do not have a catalog or printed list of the engravings, but if you will let us know just which you want we will be pleased to quote you a very low price, postpaid. Just look through the copies of the Bee Journal and make your selection. Then write to us.

GEORGE W. YORK & CO.
- CHICAGO, ILL.

HONEY AND BEESWAX

CHICAGO, Sept. 22.—Fancy grades of comb honey are sought for, there being not enough to supply the demand. A few sales have been made at 20c per pound, and No. 1 to A No. 1 sells at 17@18c, with offerings less than at any time in the memory of the writer with the close of September. The amber grades sell at from 1@4c less than No. 1 white. Extracted is easier, with a good demand for basswood clover at 9c; other white honeys about 1c less; ambers 7@8c a pound. Beeswax is selling at 31@32c.
R. A. BURNETT & CO.

CINCINNATI, Sept. 19.—The market on comb honey is very firm. We quote No. 1 white to fancy at 16½c per pound. Off grades not wanted. Extracted, fancy white sage, 10c in 60-lb. cans, two cans to a case; amber, in barrels, 7@7¼c. Beeswax in fair demand at $33 per 100 pounds.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

DENVER, Sept. 23.—We quote our local market as follows: No. 1 white honey per case of 24 sections, $3.35; No. 1 light amber, $3.15; No. 2, $2.95. White extracted, 8½@9c; light amber, 7½@8⅓c. We pay 25c cash, or 27c in trade, for clean yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

NEW YORK, Sept. 23.—The demand for comb honey is good. New crop of white comb is now arriving, and finds ready sale at from 16@17c per pound for fancy white; 14@15c for No. 1, and 13c for No. 2. We would advise shipping now, and not wait for higher prices later on. No arrivals yet of new crop of buckwheat, and not much demand. This will probably sell at around 10@11c for fancy, and from 9@10c for No. 1 Extracted honey is in good demand, and former prices are maintained. Beeswax is quiet at 30c.
HILDRETH & SEGELKEN.

KANSAS CITY, MO., Sept. 22.—The supply of honey is more liberal of both comb and extracted. The demand is fair. We quote: No. 1 white amber, 24-section cases, $3.50; No. 2, $3.00@$3.25; No. 1 amber, $3.25; No. 2, $2.75@$3.00. Extracted, white, per pound, 8½@9c; amber, 7½@8c. Beeswax, 25@28c.
C. C. CLEMONS PRODUCE CO.

INDIANAPOLIS, Sept. 22.—The demand for white comb honey exceeds the supply. Jobbers pay 18c per lb. for fancy white, and in single-case lots sales are being made for 20@22c per lb. Extracted is more plentiful, and is being offered by jobbers at 10@11c for best quality. Beeswax is in good demand, and producers are being paid 30c per pound.
WALTER S. POUDER.

TOLEDO, Sept. 20.—The market on all grades of comb and extracted is quite brisk, and sales are being made at fair prices, the prevailing prices on fancy white comb being from 16½@17½c per lb.; amber grades, from 14@15½c. Extracted, white clover, brings 10c by the case; amber grades from 6½c@8c, depending upon quality and kind offered Beeswax is quite firm, and sells at from 30@33c.

Owing to high prices asked by some producers, buyers are taking on any quantity of honey, waiting to see what the Western shippers will do, and as they have been unable to move their crop at the high price asked, there is quite a tendency to declining prices, and offerings are more freely, and prices are somewhat easier. We believe producers are making a mistake by holding their honey for exorbitant prices, as owing to the high prices of staple food articles we do not look for a big sale of honey this season. S. J. GRIGGS & CO.

CINCINNATI, Sept. 21.—The demand for comb honey is very good, and is selling by the single case to the retailer at from 16@17½c per pound, according to quality. In a jobbing way, for Western comb honey we are getting $3.75 a case; $4.00 by the single case. Extracted honey is rather plentiful, the amber selling at from 6@7½c a pound, according to the quality purchased. For strictly fancy water-white table honey we are getting 10@11c a pound. We are paying 28@30c a pound for choice, bright yellow beeswax delivered here.
THE FRED W. MUTH CO.

Souvenir Bee Postal Cards

We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for $1.10. Send all orders to the office of the American Bee Journal.

HONEY HONEY HONEY

We want to buy. We want to sell

We are always in the market for Honey, both Comb and Extracted, if quality and price justify. Should you have any to offer, let us hear from you. If Extracted, mail sample, and state how it is put up, and lowest price; if Comb, state what kind, and how packed.

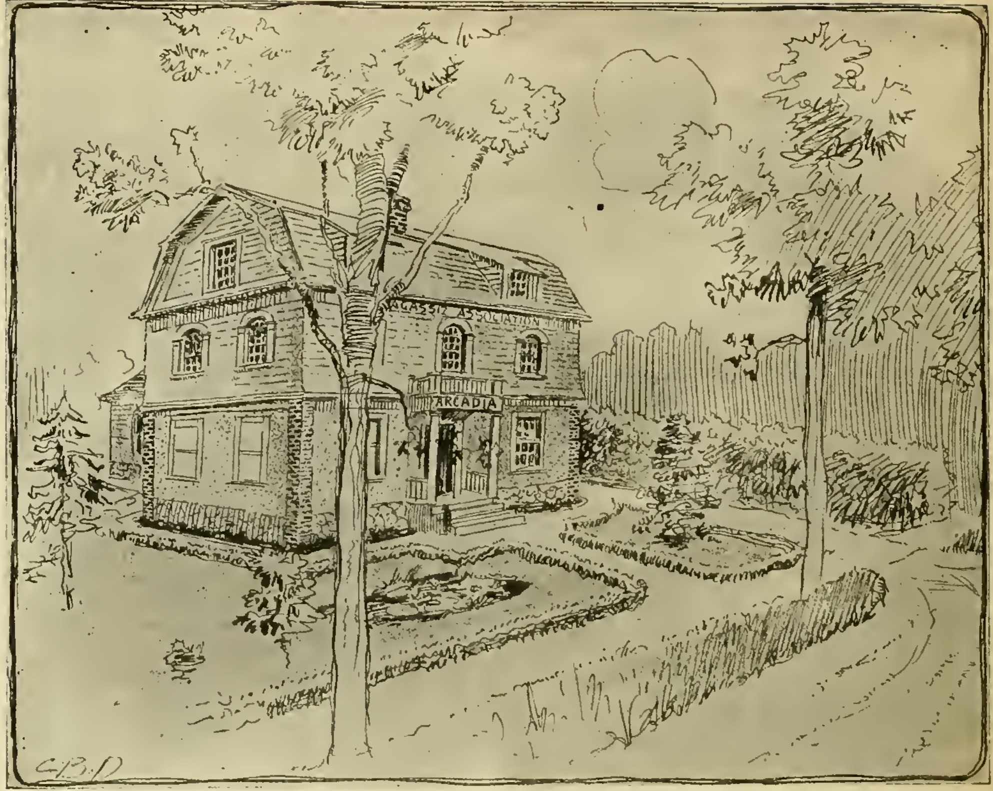
If in the market for Honey, write for prices.

CANS CANS CANS

We have a surplus of Second-Hand 5-Gallon Cans, two to a case, as good as New, used but once. Offer same, while they last, at 25c per case f. o. b. Cincinnati. Order quick, if you want any.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

A BUILDING FOR YOU, BY YOU !



You are respectfully and earnestly requested to contribute to the cost and construction of this building—it and its surroundings known as Arcadia—the Home of The Agassiz Association. The editor of this magazine believes in the worthiness of this Cause, and has contributed this space wherein this appeal may be made to you. You also are in sympathy with it because you love nature, the great outdoors, recreation, inspiration, health, happiness and humanity.

The Aassiz Association established in 1892 (Massachusetts), and in 1910 (Connecticut), is world-wide in its work. It was recently made homeless by a wealthy man who owned the property it occupied which had been promised permanently. He claimed his sole reason was out of friendship to the manager who was making too great personal sacrifice in behalf of humanity, and because he and his family were working without money remuneration. It is an interesting and surprising story. We will tell it to you, if you will let us. The Charter of the AA says:

"The purposes for which said corporation is formed are the following, to-wit: the promotion of scientific education; the advancement of science; the collection in museums of natural and scientific specimens; the employment of observers and teachers in the different departments of science, and the general diffusion of knowledge."

We believe in those purposes. That is why we ask your aid and wish to be of service to you. No officer of the Association has or will receive a salary. Its altruism in all its purposes and the height of its ideals are excelled by no other organization.

The full story is told in a beautifully illustrated magazine, "The Guide to Nature," its official organ. A copy will be mailed free to you upon request. Contributors of less than ten dollars will receive the magazine the number of years there are dollars in their contributions. Contributors of ten dollars or more are entered as Life Subscribers—as long as they and the magazine are in existence.

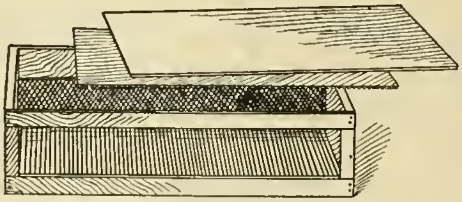
Please write for further particulars.

The Agassis Association, Arcadia, Sound Beach, Conn. Edward F. Bigelow, President, and Man'g. Ed. "Guide to Nature."

1912 "Falcon" BEE-SUPPLIES

6 Percent September-October Discount

The fall and early winter months constitute the dull season for selling bee-keepers' supplies. During these same months, after the honey-crop is gathered, the bee-keeper has the most leisure time. To induce bee-keepers to send in these early orders we offer a six percent discount during September and October. As the money is invested not to exceed six months earlier than the supplies must needs be purchased, the interest earned is at the rate of twelve percent, a fine profit in itself. In addition the rush is avoided and the possibility of a delayed shipment and consequent loss in swarms and honey forestalled. How many bee-keepers have lost more honey than the total value of their supplies, just on account of not having them ordered in time? Hives and supplies purchased now can be put together rainy days and idle times cheaper and better than under the excitement of swarming-time.



Corrugated-Lined Shipping-Cases.

Prices

"Falcon" CASES with extra sheets of corrugated paper and corrugated follower cost no more than Cases without these sold by others.

24-lb. for Beeway Sections

Showing Four

This case is 11⅜ inches wide, holds 24 sections 4¼x1⅞ to 1¾ or 20 sections, 2 or 1 15-16.

No. 11 with 3-inch glass,	10, $1.30	100, $18.00
No. 11 with 2-inch glass,	10, $1.90	100, $17.00
No. 1 without glass,	10, $1.80	100, $16.00

12-lb. for Beeway Sections

Showing Three

Holds 12 sections 4¼x1⅞. A convenient standard size.

No. 13 with 3-inch glass,	10, $1.30	100, $11.50
No. 13 with 2-inch glass,	10, $1.25	100, $10.75
No 3 without glass,	10, $1.20	100, $10.00

24-lb. for Plain Sections

Showing Four

Holds 24 sections, 4¼x1½.

No. 11½ with 3-inch glass,	10, $2.00	100, $17.00
No. 11½ with 2-inch glass,	10, $1.90	100, $16.00
No. 1½ without glass,	10, $1.70	100, $15.00

24-lb. for Ideal Sections

Showing Four

Holds 24 sections 3⅝x5x1½.

No. 16 with 3-inch glass,	10, $1.80	100, $16.00
No. 6 without glass,	10, $1.60	100, $14.00

24-lb. for Tall Sections

Showing Four

For 24 sections 4x5x1⅜.

No. 18 with 3-inch glass,	10, $1.80	100, $16.50
No. 8 without glass,	10, $1.60	100, $14.50

Send a Full List of 1912 Wants Immediately and Get Quotations

W. T. Falconer Mfg. Co.
117 N. Jefferson St., CHICAGO, ILL.

C. C. Clemons Bee-Supply Co.
130 Grand Avenue, KANSAS CITY, MO.

AMERICAN BEE JOURNAL

November 1911

Mass Agl College apr16
Library Amherst, Mass

Minnesota State Capitol Building and Minnehaha Falls with National Convention Group.—See page 329.

AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America (except in Chicago, where it is $1.25), and Mexico; in Canada, $1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec11" on your label shows that it is paid to the end of December, 1911.

SUBSCRIPTION RECEIPTS.—We do not send a receipt for money sent us to pay subscription, but change the date on your address-label, which shows that the money has been received and credited.

Advertising Rate, Per Agate Line, 15c.

14 lines make one inch.
Nothing less than 4 lines accepted.

DISCOUNTS:

3 times 14c a line 9 times 11c a line
6 " 12c " 12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.
Goes to press the 6th of each month.

National Bee-Keepers' Association.

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

Officers and Executive Committee.

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Vice-President—W. D. WRIGHT, Altamont, N. Y.
Secretary—E. B. TYRRELL, 230 Woodland Ave., Detroit, Mich.
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Are you a member? If not, why not send the annual dues of $1.00 *at once* to Treas. France, or to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

Crown Bone Cutter
Hens fed cut green bone lay more eggs. Get a Crown Bone Cutter. Send to-day for catalogue.
Wilson Bros., Box 814, Easton, Pa.
BEST MADE
Lowest in Price

Queens That "Are Better"— Italians & Banats

Untested, 75c each; $8.00 per doz. Tested, $1.25 each; $12 per doz.
Select Breeders from Full Colonies, $3.00 each.

Wholesale price of Queens—5 dozen or more in one order, deduct 50c per dozen.

After July 1st I am going to make a special introductory price for Breeder Queens that were reared early in spring, and have served me in building up populous colonies, and thereby having fully demonstrated their value. One colony of my Banats has given this season 212 pounds of surplus bulk and extracted honey. Some of my Italians were as populous, and might have given as much surplus had they been in as good location. Breeder Queens, $3.00 each; one dozen or more in one order, deduct 25c each.

One-frame Nuclei, with Untested Queen, $2.00 each; 2-fr., $3.00; 3-fr., $4.00.

Full colonies, 10-fr., $7.00. Add 50c if Tested Queens are wanted; add $2.00 each if Breeder Queens are wanted.

Twenty or more Colonies or Nuclei in one order, deduct 25c each.

I have six different yards several miles apart, and am prepared to fill orders promptly. I solicit your trade and guarantee you satisfaction.

J. A. Simmons, Uvalde Co. Apiaries, Sabinal, Tex.

Lewis Beeware, Bingham Smokers
Dadant's Foundation.
Are Any Supplies Needed by the Bee-Keeper?
BEESWAX WANTED. CATALOG FREE.
Leather-Colored and Golden Untested Italian Queens, $1.00.
The C. M. SCOTT CO., 1004 E. Wash. St., Indianapolis, Ind.

Bees For Sale.

I have a few lots of Bees offered to me to sell, scattered in South Georgia and Middle Florida. The most of them are well located; others can be moved a short distance in good locations. The most of the bees are in modern hives, and some good bargains in the lot. 8Atf

J. J. Wilder, Cordele, Ga.

Please mention Am. Bee Journal when writing.

The - Biggest - Discount
Of the Season on Bee-Supplies.

Send us list of goods wanted for best prices. Now Ready. Full blood pedigreed prize-winning Chickens—Barred Rocks that are BARRED; Whited Rocks and White Wyandottes that are WHITE—$1.00 each and up. Show-birds a Specialty. Cat. ready in Jan.

Catalog Free. **H. S. Duby, St. Anne, Ill.**

Please mention Am. Bee Journal when writing.

This Big Book Will SAVE YOU Nearly HALF
ON Groceries Furniture Clothing Bedding Draperies Lingerie Glassware Silverware Shoes, Furs Everything For WEAR or IN THE HOME.
Send for it today. A postal will do. See how you can *save nearly half* your living expenses. For example: Laundry Soap, 2 1-2 cents a bar; Baking Powder 7 1-2 cts. a can; 3-cake box Toilet Soap 12 1-2 cts; Starch 5 cts. a box. Everything about half usual store prices.
Nothing Down; 30 Days' Trial. Pay If Pleased
On our Premium Plan with orders for our Guaranteed Products, at about the usual store prices, we give a choice from
1500 PREMIUMS
(See illustration). On this plan you can furnish your home without cost as you pay no more for the Grocery Products and the FREE premium represents your saving. Satisfaction guaranteed. Send for Big Free Book today and learn all about this money-saving way of buying. [51]
Given Free with $10 Worth of Products
Crofts & Reed Co., Dept. C569 **Chicago, Ill.**

Please mention Am. Bee Journal when writing.

—— Wanted ——
Comb and Extracted Honey

Let us hear from you with your best price on your Comb and Extracted Honey, freight paid to Cincinnati. We buy every time price justifies. No lot too large or too small. We remit day shipment arrives.

The FRED W. MUTH CO.
"THE BUSY BEE-MEN"
51 Walnut Street, CINCINNATI, OHIO

BEES AND HONEY

FIRST LESSONS IN BEE-KEEPING

NEWMAN DADANT

The above is the title of a new and revised edition of what for many years was the book called "Bees and Honey," written by the late Thomas G. Newman, editor of the American Bee Journal. Mr. C. P. Dadant, whose reputation as a honey-producer and expert bee-keeper is unquestioned, revised the book recently. The last edition consisted of 160 pages, but the revised edition, hereafter to be known as "First Lessons in Bee-Keeping," contains nearly 200 pages, and is perhaps the most generously illustrated bee-book of its size now published, as it has over 150 pictures.

"First Lessons in Bee-Keeping" is principally for beginners in the bee-business, as its name indicates. It contains the foundation principles of bee-keeping—just what every beginner ought to know in order to start right with bees. It does not pretend to cover the subject in so thorough manner as do the higher-priced and larger bee-books, such as "Langstroth on the Honey-Bee," Prof. Cook's "Bee-Keepers' Guide," etc., but there are a large number of very important preliminary principles that should be well understood by every one who intends to take up bee-keeping, and this book is just the thing for that purpose.

It is printed on excellent paper, and well bound in pamphlet style. The outside appearance of the cover of this book, is entirely different from anything yet seen on a bee-book. One can know without reading a word that it is something about bees, by simply looking at the cover, either front or back.

We intend to present a copy to any person who sends us $1.00 for a year's subscription *in advance* to the American Bee Journal, whether a new or renewal subscriber; but, of course, the booklet *must be asked for* when subscribing and sending the dollar.

The price of "First Lessons in Bee-Keeping," bound in strong paper, is 50 cents, postpaid. We would suggest that every Journal reader secure a copy of this book in connection with your own advance renewal subscription, and then show it to your neighbor bee-keepers, and get them to send in their subscription; or, if you wish to sell the book to your neighbors, we will make you a liberal discount for such purpose. But be sure to get a copy of the book yourself, so as to see what a beauty it is. Address,

George W. York & Co., 117 N. Jeff. St., Chicago, Ill.

MARSHFIELD GOODS

BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., **Marshfield, Wis.**

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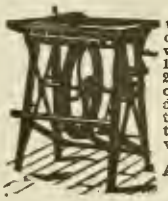
BARNES' Foot-Power Machinery



Read what J. L PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter. 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
995 Ruby St., Rockford, Ill.

M. H. HUNT & SON

The best time to buy your goods is during the fall and winter months. We are making **Liberal Discounts for Early Orders,** and would like to quote you **net prices** on your needs for next season.

—BEESWAX WANTED—

LANSING, - MICHIGAN.

Please mention Am. Bee Journal when writing.

Bee-Keepers

Here is a bargain in No. 2

4¼x4¼ **1-Piece 2-Beeway Sections**

$3.25 per 1000. Plain, 25c less.

Send your order to-day. Also write for Catalog. 1Atf

AUG. LOTZ & CO.,
BOYD, WIS.

Please mention Am. Bee Journal when writing.

Langstroth on the Honey-Bee

Revised by Dadant. **Latest Edition.**

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. Bound in substantial cloth, and has nearly 600 pages. Revised by that large, practical bee-keeper, so well known to all beedom—Mr. C. P. Dadant. Each topic is clearly and thoroughly explained, so that by following the instructions of this book one can not fail to be wonderfully helped on the way to success with bees.

We mail the book for $1.20, or club it with the American Bee Journal for one year—both for $2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

GEORGE W. YORK & CO.
CHICAGO, ILL.

"The Amateur Bee-Keeper"

This is a booklet of 86 pages, written by Mr. J. W. Rouse, of Missouri. It is mainly for beginners—amateur bee-keepers—as its name indicates. It is a valuable little work, revised this year, and contains the methods of a practical, up-to-date bee-keeper of many years' experience. It is fully illustrated. Price, postpaid, 25 cents; or with the American Bee Journal one year—both for $1.10. Send all orders to the office of the American Bee Journal.

You are particular?

about the quality and workmanship of the bee-goods you buy—you have a right to be.

Years ago, when bee-supply industries were at the "Carpenter Shop" stage, you were obliged to take what you could get—Hives poorly made and roughly finished—Sections that were made incorrectly, fit wrong, and gave you trouble.

Now things are different—nowadays bee-supplies are manufactured scientifically right at the new five-acre plant of the G. B. Lewis Company.

Lewis Beeware is the result of thirty-five years of bee-supply experience. The Head Mechanic has been with this organization thirty-five years; the Superintendent of bee-hives twenty-nine years; Superintendent of sections twenty-eight years. All these years these men have been studying methods, material, machinery, and the peculiar demand of the bee-keeping public.

Does all this mean anything to you?

The Answer is simply this: Buy LEWIS BEEWARE. Insist on LEWIS BEEWARE.

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AMERICAN BEE JOURNAL
L.L.LANGSTROTH
CHAS. DADANT

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EDITORIAL COMMENTS

"Karo Corn Syrup" vs. Honey

For many a year the name of Marion Harland has been a household word. It is the pen-name of a writer whose "Common Sense in the Household" has for more than 30 years been constantly consulted in thousands of homes all over the land as a help in good cooking. Other works from her pen, and her voluminous writings in the daily press, answering thousands of questions from anxious inquirers, have helped to endear her to the heart of the great public, who have felt that Marion Harland was a warm personal friend, a wise friend who always knew what was best on all questions pertaining to the matter of one's daily bread, and a friend whose word could always be relied on—utterly dependable.

When the October number of leading popular magazines appeared many must have gasped with astonishment when they faced a full-page advertisement of Karo, the chief part of the advertisement being the following, in bold, black type:

> I do not hesitate to award *Karo* the preference above any other table syrup used in my household.
>
> As an accompaniment to waffles and griddle-cakes it deserves all that can be said in praise of it. It is as clear and as sweet as honey, and richer in consistency without the cloying quality that makes honey distasteful to some, and unwholesome if eaten freely.
>
> I have also used *Karo* in the preparation of puddings and gingerbread, and with satisfactory results. The candies made from it are pure and delicious.
>
> MARION HARLAND.

One can imagine something of the thoughts and the questionings awakened upon the reading of that remarkable statement. After the first shock of surprise there will probably be some analysis of the statement: "Karo the preference over any other table syrup used in my household!" And Karo is glucose! Does that mean that Marion Harland uses nothing better than glucose in her household, or does it mean that after trying all kinds of syrups she finds glucose the best? "As an accompaniment to waffles and griddle-cakes it deserves all that can be said in praise of it." All that *can* be said. It *can* be said to have a flavor superior to the best of honey, and greatly to excel honey in wholesomeness; and that praise it deserves!

"Clear and sweet as honey and richer in consistency." Now what does that "richer in consistency" mean? Does it mean that Karo is thicker than the thickest honey, even if the honey be granulated? Or what can it mean? "Without the cloying quality that makes honey distasteful to some, and unwholesome if eaten freely." Does that mean that it is always dangerous to eat honey *freely?* What will be thought of such a thing in families where honey is a common article of food and where there is no restriction put upon the amount eaten by the children? Does the cloying quality make it unwholesome for them? "The candies from it are pure and delicious." Pure? Pure glucose?

But before there is time to formulate all this into words, the question will be raised, "Is it Marion Harland that says this? *Our* Marion Harland? The Marion Harland whose every word is always true as gospel? It can not be. But there is the fac-simile of her written signature, 'Marion Harland!' Can it be that she really believes that signed statement? Does she actually know so little of the comparative characteristics of honey and glucose? Can she be in her dotage? Or can it be possible that there was some financial inducement in the case?"

Although answers to such questions may not be obtained, and although the whole matter must be left in amazement and doubt, one or two comments may not be out of place.

First, that in groping after words to express the superlative excellence of glucose, the only thing sufficiently approaching it to be worth mentioning is *honey*. Sugar, drips, Louisiana molasses, maple, and all the rest passed by in silence as being inferior—*honey* being the only thing to be compared with the incomparable. Let us be thankful for so much of a compliment to honey, even though it fall far below glucose.

Another thing should not escape mention: Those full-page display advertisements were not inserted for nothing. They cost money. A lot of it. The manufacturers of glucose are very likely shrewd business men who are not throwing away money. They have been advertising Karo long enough to be able to judge whether it pays or not. Evidently they think it does. They make the statement that 70,000,000 cans of Karo were consumed in 1910. Taking that at its face value, and figuring those cans at one pound each (although certainly all were not such small cans), it would make 35,000 tons, and if we allow 35,000 pounds to a carload, it would take a train of 2000 cars to haul it. And what has sold it? *Advertising.*

Now the question is, if advertising will do so much for a thing that tastes no better than glucose, what would it not do for so good a sweet as honey? And if it pays to spend huge sums to advertise glucose, would it not equally pay to spend the same amount for something so superior that it needs no misrepresentation?

But the glucose business, instead of being in the hands of thousands, as is the honey-business, is mainly in the hands of one company, and that makes a big difference. Well, then, why would it not pay to have a company take over the honey-business, as has been done with the glucose business? Or, what would amount to the same thing, why not have all the bee-keepers of the country get together as *one company*, and thus be enabled to advertise on an equal footing with the glucose interests? Will they do it? If not, why not?

Best Bees to Resist Foul Brood

Nowadays the question is asked more than once, "What bees are best to resist foul brood?" It has been pretty generally understood that Italians are better than blacks for this purpose. Wm. McEvoy is asked in the Canadian Bee Journal whether there are more kinds than one of Italians, and which kind is best to resist disease, and answers that there is one kind of Italians with varying shades of color, and to the specific question, "Which is the better kind to use for Italianizing against black brood?" answers, "Where Italians have been bred from the colonies that have given the largest yields of honey in an apiary, I would accept these in preference to any other for every purpose."

Mr. McEvoy's answer is good. No breed of bees is immune to foul brood, but some will resist better than others; and the colony that is most vigorous in gathering stores will use the same vigor in resisting disease. We can not measure directly the disease-resisting strength of each colony, but we can measure the storing strength, and be guided thereby.

But it may be asked, "Why does Mr. McEvoy put the word 'Italian' at all in his answer? Will not the bees which store the most honey be the best to resist disease, whether they have any yellow bands or not?" Very likely. All Italians are not of equal vigor. All blacks are not of equal vigor. Pit the best colony of blacks that can be found against the poorest colony of Italians that can be found, and the blacks will no doubt store more than the Italians; and equally they will do better at resisting disease. Italians resist disease not because they are yellow, but because they are *vigorous*. The first cross between blacks and Italians are as good storers generally as the pure stock—sometimes better; and by the same token they may be as good or better at resisting disease. Even so, there is a reason for preferring the pure stock because of the relation it has to the future. The cross between the two bloods is not as stable as the pure blood. Continue breeding from the cross, and there is likely to be deterioration, while if you persist with the pure blood there will be more stability, less likelihood of variation, and so it will be an easier thing to perpetuate any good qualities found.

So, whether one be striving for bees that will best resist disease, or for bees that will store the most honey, it is well to stick as closely as possible to bees of pure blood. This is not saying that there might not be obtained something superior by crossing, but it will not be gained in a day, and the most ready way to reach the goal is through pure blood.

Slow Feeding for Brood-Rearing

Gleanings in Bee Culture reports experiments with regard to feeding bees for the purpose of getting them to rear brood at a time when they are getting no stores from the field. This is a matter of interest to those who have no fall flow, and yet wish to build up colonies that are too weak for winter. Indeed, in places where the honey-flow closed very early, it may be desirable to feed even strong colonies, as otherwise there would be nothing but very old bees to enter the winter. Editor Root says:

"Half a pint of syrup daily will start brood-rearing at almost any time of the year when the bees can fly; but, unfortunately, bees will take the half-pint out of the ordinary feeder in about an hour's time. So much food coming in *all at once*, then stopping short off, causes general excitement, making more or less of an uproar in the apiary. This unduly wears out the wings of the bees, makes them cross, and is liable to cause robbing, for the bees in the air will hunt high and low to find where this supply of food came from. This is a needless waste of energy and bee-life."

So he has fallen upon the plan of soldering up all but one or two of the holes of a pepper-box feeder, so that it will take the whole of the 24 hours for the colony to take the half-pint of feed, and he thinks that produces more brood for the same amount of sugar than would be produced if the bees could take it in an hour's time.

One can but wonder why a thinner syrup would not serve better. There may be some reason against it, but on the face of it it looks as if 3 parts water to one of sugar would be better than the half-and-half syrup used. That would be more like the nectar of flowers in consistency, and so would appear more natural. Cutting the bees down to one hole allows only a few bees at a time to get at the feed. With 3 times as much water there would be 3 times as many holes, and 3 times as many bees would get at the feed. Is there any objection to the thinner feed?

Nature's Order in the Bee-Hive

The beginner who opens a hive early in the spring, and finds several combs well filled with honey, and the remainder partly filled with brood and filled out with honey, is likely to think that there is little chance for the colony to build up, seeing that there is so little room in the combs for brood. But gradually the amount of honey melts away, while with even step the amount of brood increases. The dependence is on the stores already laid up in the hives, for there is little to be gathered outside, and if pasturage were abundant the force of gatherers is too small to take advantage of it. Even the seasoned veteran is likely to be surprised at the enormous amount of stores consumed in brood-rearing in the early part of the season, and there is little occasion for worry lest there shall be too little room for the queen to lay because of too much honey in the hive.

After a time a very different state of affairs is presented when the hive is opened, say about the beginning of the main honey harvest. One can easily imagine a beginner saying: "Well, it's time something were done here. Brood in every one of the 8 frames in the hive; 6 of them about full, and the outside 2 with brood wherever the cells are not filled with pollen, and not a half pound of honey in the whole hive. If the honey in the hive disappeared so fast when there was only half as much brood, it must be disappearing a good deal faster now, and starvation is about certain unless I interfere." Generally speaking, however, there is no cause for alarm. It is true that honey is used much faster with the greater amount of brood, but it is also true that now there is more to be had in the field, and a much larger force to gather it. True, if a few days of bad weather should occur, preventing the foragers from going afield, the result might be somewhat disastrous, and it is not the very best thing to let a colony get down to its last half pound of honey; but in a single good day the present large force of field-bees can provide against several days of bad weather.

Then another thought will suggest itself to the beginner, and he will say: "It certainly doesn't look as if 8 frames were enough to provide stores for winter. Brood takes up so much of the room that if every cell in the hive unoccupied with brood were to be crammed with honey there wouldn't be enough honey in the hive to carry the colony to the middle of winter." But further experience will teach him that with 8 frames there will generally be abundant stores for winter, even though there might be still greater safety in a 10-frame hive.

Now let the beginner open the hive again late in the season. He exclaims: "This hive is so crowded with honey that the queen is crowded out, and there is hardly any brood in the hive. Is it not necessary to extract a comb or two so as to give room for the queen to lay?" But if he follows out the suggestion, emptying one or more frames, he does not find that it makes any perceptible difference in the laying of the queen. The fact is that the bees have been wisely carrying out the plans of Dame Nature, and gradually the brood-nest has shrunk, the store of honey following up the receding brood, and filling the vacant cells.

Thus it is that the changes occur throughout the season, the brood-chamber at one time overflowed with brood, and at another time seeming nothing but a store-house for honey; all in its due season.

Deportment of a Virgin Queen

Adolf Mueller, after 20 years' experience, gives in Prakt. Wegweiser some items of interest regarding young queens. After a virgin has patrolled the hive for 5 days, and has become sole monarch, she takes her first flight. On this first day of flight she comes to the entrance, looks about for some time, flies backward like every other young bee marking the entrance, then takes a wider flight, and in the course of 5 minutes returns to the hive. That's enough for the first day, and if it is windy or clouds over she hurries home in less time.

The next day, weather being favorable, she generally takes 2 or 3 flights somewhere between 12 and 4 o'clock. Neither of these flights exceeds 5 minutes, and during the time of each flight the colony flies stronger than usual.

On the succeeding day she seems to be driven out by the workers, who tickle her with their antennæ, and even bite her with their jaws.

After any absence of 15 to 25 minutes she returns to the hive, and the bees which had shown a great state of excitement immediately subside. In about 24 hours the queen begins to lay. Sometimes, however, daily flights may occur 5 days in succession before fertilization occurs. Bad weather may delay fertilization, and in one case fertilization did not occur until the young queen was 27 days old, and she began to lay the next day.

MISCELLANEOUS NEWS ITEMS

Death of E. C. Porter.—Every well-informed bee-keeper is familiar with the Porter bee-escape—that big little instrument that is such a help when taking honey off the hives. Its inventor was E. C. Porter, of Lewistown, Ill., whose death last August is recorded in the following from Gleanings in Bee Culture for Oct. 15, 1911:

> Edmond C. Porter was born June 10, 1857, and died Aug. 6, 1911. He was the only child of Rufus and Mary E. Porter. He was a man of excellent character and sterling worth. He was honorable, reticent, studious and industrious, taking the utmost pains to perfect anything he undertook along any line of work. He possessed a vast fund of knowledge on various topics—very unusual in this day of rush and hustle. Nothing but the best satisfied him; and if any question came up, he did not rest until he had answered it, and was sure he was right. He was an ardent lover of Nature, and it was his pride to cultivate choice varieties of fruit and plants.
>
> His father, Rufus Porter, was a rearer of bees, and from his earliest childhood Edmond, too, loved and worked with them.
>
> While Mr. Rufus Porter was the original inventor of the Porter bee-escape, the son improved upon it, and it was he who manufactured them and placed them on the market.
>
> Just before his death he had been granted a patent on the improvement. He had many bees of his own, and made a specialty of extracted honey.
>
> He was a fine financier, and, in addition to the bee-industry, he had a large farm, and took charge of the tile-factory which belonged to his father.
>
> He was unmarried, and had always been at home with his mother, to whom he was devoted, especially since the father's death 7 years ago. He has given her the most tender love and care. She is now well advanced in years, and feels his loss keenly.
>
> He was loyal to his friends, just and generous to all, and in his death we have lost a really good man who will be greatly missed in the community in which he lived.

We understand that Mr. Porter's business is to be continued at Lewistown, Ill., under the supervision of Mr. H. D. Rogers, a cousin of Mr. Porter.

The American Bee Journal desires to unite with bee-keepers everywhere in extending sympathy to Mr. Porter's mother, in her bereavement.

◆

What Makes Low Prices for Honey?—Replying to the claim that the price of honey is simply a matter of supply and demand, Editor Tyrrell says in the Bee-Keepers' Review:

> Isn't it more of a question of proper distribution? Are *all* honey consumers properly supplied? And isn't it a fact that many honey-producers do not get the market price for their honey simply because they don't *ask* enough?
>
> A few days ago a honey-buyer showed me a nice lot of honey that he had bought at 12½ cents per pound, from a bee-keeper who couldn't afford to take a bee-paper. The honey could have been sold in a *wholesale way* at 18 cents. What had supply and demand to do with the sale?

◆

Age of Flight of Young Bees.—L. S. Crawshaw asks in the British Bee Journal: "Is it established beyond doubt that no bee less than 14 days old will join the swarm?" and speaks of "the statement that a worker-bee leaves the hive for flight on the 14th day."

It is generally understood that a bee becomes a fielder when 14 to 16 days old. On each fine day bees will be seen having a play-spell in front of the hive. As the fielders have no need to play for exercise, will not these playing bees necessarily be younger than 14 to 16 days? Some years ago the writer put an imported queen in a hive with sealed brood; not a bee out of its cell except the queen, the hive being closed bee-tight. Five days later the entrance was opened, and not only did the bees fly on that day, but brought in loads of pollen! If, under stress, a bee becomes a fielder when 5 days old, is it not likely that it would normally fly for exercise at that age or younger? Has Mr. Crawshaw never watched an issuing swarm when baby bees would come out and crawl on the ground, too young to fly?

◆

Nosema Apis Not a Menace.—At the annual conference of the Victorian Apiarists' Association, Mr. W. Laidlaw, Biologist of the Department of Agriculture, delivered an address in which he said, as reported in the Australasian Bee-Keeper:

> During the past year I have examined over 1500 bees from all parts of the Commonwealth, chiefly for the purpose of settling the vexed question, "Does Nosema apis do any harm in the apiary?"
>
> I find the number affected with Nosema is a trifle over 17 percent, quite a respectable percentage, but one which is not sufficient to account for the entire disappearance of a colony. Then, again, in certain districts Nosema is present to a very much greater extent than in others, and there the mortality is no larger. So far as our present knowledge of Nosema apis goes, it does not appear to be the cause of much, if any, harm, though we will not be able to say definitely until the life history of the parasite is fully known.

◆

Is Sugar Good for Bees?—In the British Bee Journal "A Roman Bee-Keeper" raises the question whether the great mortality caused by disease among the apiaries of British bee-keepers may not arise from their feeding sugar instead of honey. He says, among other things:

> It is hardly likely that such an immemorial adaptation as that of honey to bees, or bees to honey, can be artificially set at naught with impunity. And who shall say what injurious effects all this artificial feeding may have on queens and their progeny, especially when it is considered that in place of their own highly-concentrated, aromatic, directly assimilable food, they are expected to put up with an insipid, watery, unpalatable, indigestible mess like sugar syrup?
>
> Here in Italy, where, owing to the ruinous price of sugar, bees are allowed to live almost entirely on their own honey, disease of any kind is quite an exceptional condition, though now and then one hears of cases of foul brood.

The editor replies that sugar syrup is not a complete food for bees, but a substitute when they have not sufficient natural stores, and adds, "No doubt some of the diseases, more particularly dysentery, can be attributed to using beet-sugar instead of cane."

This idea of the harmfulness of beet-sugar as compared with cane has been held for years among British bee-keepers, and for as many years has been regarded on this side the water as erroneous. It does seem strange that there can not be agreement as to this. Certainly a large part of granulated sugar is made from beets. Either it is or it is not bad for bees. It is hardly bad in England, and good here. It would be a good thing if there could be some authoritative statement based on convincing proof that would settle the question.

In a succeeding number of the same journal, Samuel Simmins comes vigorously to the defense of sugar, and says:

> No statement could be more devoid of reason nor more contrary to fact. We are asked to believe that a food containing no disease germs, or at least none that are injurious to bees, is the cause of their suffering from an infectious malady that is only to be transmitted from one colony to another by the germ peculiar to that disease.
>
> Why should the feeding of a few pounds of good sugar cause an outbreak of the malady in one apiary, when another, with ten times the number of colonies, where in dull seasons the autumn finds the owner feeding something like a ton of loaf sugar, is found to remain free from any infectious disease whatever? Why are there hundreds of apiaries where sugar-feeding is yearly resorted to, still remaining free from infectious paralysis and other complaints?

Then he cites copious proofs that disease has prevailed where little or no sugar was fed, and has been absent where sugar was used for a winter food.

It is not likely that the mortality in the Isle of Wight and contiguous regions should be charged to the account of sugar. Still it is well to heed the warning of German writers, who say that while sugar may be a good winter food it is inadequate as a food when the time comes for brood to be reared. It lacks the necessary nitrogenous elements contained in honey, and must tend toward deterioration of the nurse-bees and brood.

◆

Bees as Fertilizers.—So many proofs have been given of the value of bees as fertilizers of plants that it hardly seems necessary to give more; yet a case is reported in the British Bee Journal that seems well worth recording because of its painstaking character and exactness of details. Geo. Hayes, the experimenter, thus reports:

> In 1908, after transplanting for experiment some white clover into my garden, I came across a sturdy self-sown plant; so I took this rather than the transplanted root as being the better off the two. When it began to blossom I selected 3 of the most vigorous heads just before the first flower was about to open, and, after removing all small insects, I supported each on small stakes, and put a frame-work of specially-constructed wire-work over each head to give it plenty of room to develop. Over this I spread some fine-woven gauze to exclude insects from above and to admit light and air. Cotton-wool was tied around the stalk to prevent insects from ascending to the flower; and so they grew, each flower having about 3 cubic inches of space. The plant had in all 29 flower-heads, which will show that it was very vigorous.
>
> The 3 protected heads flowered well to the last floret, and were the first to ripen; but there was a marked difference at this stage in their peduncles compared with those of the other flowers.
>
> When the majority of the flower-heads were ripe, I cut off the 3 which had been protected, and also 3 of those unprotected, and after cutting their stalks to equal lengths they were weighed, with the follow

ing result: The 3 unpropected heads weighed 18 grains, while the 3 protected ones weighed only 4 grains.

Here was, I considered, strong evidence in favor of clover requiring aid to fertilization. However, I went further, and allowed them to dry for a fortnight, after which they weighed as follows; 3 unprotected heads, 11 grains; 3 protected heads, 2½ grains.

I next separated the seeds, and found in those unprotected: No. 1 head, 112 seeds; No. 2 head, 99 seeds; No. 3 head, 93 seeds. Total, 304 Average per head, 101. Weight of seeds, 8½ grains. On examining the protected heads, after a long and diligent search, I was unable to find a single seed.

◆

Value of Bees in the Orchard.—At a recent meeting of the Vermont Horticultural Society, much emphasis was made upon the keeping of bees, says an exchange. Last season was wet and cold in the spring, and not conducive to a good fruit crop, and those who have set and cared for large orchards of their own have observed that the orchands, or parts of orchards, near colonies of bees bore well, while those at a distance did not. The apple-blossom is so constructed as to render the work of bees necessary to pollenization.

This is the reason why trees bear so much better and more evenly in warm, dry seasons.

One speaker said that he had about 50 colonies in and about his orchard, and his orchard bore heavily last year, which was not a good fruit-year in Vermont.

◆

Mr. and Mrs. A. I. Root's Golden Wedding was celebrated at Medina, Ohio, Sept. 29, 1911. The anniversary dinner occurred at the home of Mr. and Mrs. J. T. Calvert. The 5 children and 9 grand-children of Mr. and Mrs. Root were all present. Full-page portraits of the honored couple appear in Gleanings in Bee Culture for Oct. 1. Judging from their youthful appearance we see no reason why they should not live to celebrate their Diamond Wedding anniversary in 1936.

The hundreds of thousands of bee-keepers all over the world will join in extending congratulations to Mr. and Mrs. Root upon their long and joyful wedded life, and wish them yet many years of happiness together. The American Bee Journal unites with all the rest in this sincere congratulation and hope.

◆

Bee-Keeping in Cuba.—We have received the following consular reports on bee-culture and its products in Cuba, which will no doubt be read with interest by many, coming, as they do, backed with the authority of our Government:

(From Consul MAX J. BAEHR, Cienfuegos.)

The most reliable authorities available give the date of the introduction of the honey-bee into Cuba as the year 1764, when the common German or black bee was brought to the island from Florida.

It is only in recent years that Italian bees have been imported into this country. So far they are considered by bee-keepers as the best species both for honey and for wax. There are so many of the native apiaries that have only the German or black bees, however, that it is difficult for the owners of the Italian bees to keep them absolutely pure. The cross between the German and the Italian bees is the usual hybrid found in Cuba; and while not so gentle to handle as the pure Italians, they are usually good honey-gatherers.

Exports and Production.

In 1905 the exportation of honey from this port to the United States amounted to $4923, in 1906 to $823, in 1907 to $290, nothing in 1908 and 1909, and $144 in 1910. Thus it can be said that since 1905 practically all honey shipped through this port was sent to Europe, and principally to the ports of Hamburg, Bremen, Amsterdam, Rotterdam, and Antwerp. The total amount exported from this section during 1908 was 68,500 gallons; 1909, 69,000 gallons; and 1910, 62,500 gallons.

These quantities, with an additional 10 percent, comprise approximately the total production in the Cienfuegos district, as it is calculated that the local consumption does not exceed 10 percent.

All the honey here is collected from hives of American manufacture, and taken by extractors, also of American production.

(From Consular Agent P. B. ANDERSON, Caibarien.)

Most of the honey sent from Caibarien is produced outside the district, coming to this port largely from along the coast eastward as far as 160 miles. The principal centers for honey-production are at Yaguajay, 21 miles distant; Mayajigua, 30 miles eastward; Punta Alegre, Chambas, Maron, Remedios, Vueltas, Camajuani, Zulueta, Placetas, and along the line of the Cuba Railway Company as far as Ciego de Avila and Sancti Spiritus.

The honey season is recognized as extending from November to March, inclusive, and the yield varies in quantity with the weather during these months. The hives employed are nearly all of native manufacture, from the hollowed trunks of trees, although there are in use some improved wooden hives imported from the United States. The honey is extracted from the native hives by the simple process of scraping it out; with modern hives the frames are lifted out and the honey then extracted. In the rural districts, the contents of the hives are placed in a sack or cloth through which the fluid drains. It is then put in tierces and barrels and shipped, mostly to Europe.

The season ending with March, 1910, showed shipments from Caibarien amounting to 24,000 gallons. The yield for the season ending with March, 1911, is estimated at 18,000 to 22,000 gallons of honey, and 16,000 to 18,000 pounds of wax.

There are no local dealers in hives. The small number of imported hives used are purchased in Havana.

(From Consular Agent DEAN R. WOOD, Nuevitas.)

Bee-keeping is extensively carried on all over this district, and forms a standard and profitable industry, particularly when given proper care and attention. Some of the native black bees are considered good workers, but experienced persons say that the Italians resist certain diseases better, and therefore are preferable. Most of the forest trees and shrubs in Cuba flower at some time of the year, and each produces its part for the benefit of the bee-keeper.

Such apparatus as is imported into Cuba, at least into this district, comes entirely from the United States, but merchants here never carry such articles in stock, and each individual orders for himself when wanted. Although a considerable quantity of the wax and honey produced in this district eventually is sent to the United States and other countries, no large part is shipped direct from this port, but is sent to Havana, and, no doubt, exported from there. During 1910 wax to the value of $16,286, and honey worth $4220, were exported from Nuevitas direct to the United States.

(From Consular Agent JOHN F. JOVA, Sagua la Grande.)

In this section there are some 780 colonies of bees, 480 of them housed in primitive native hives, and 300 in modern hives. The native hive is made from a hollowed log 3 or 4 feet long, and permits of the collecting of but one crop of honey in a year, the average yield being 5 or 6 gallons of honey and 3 or 4 pounds of wax per hive. As the honey can not be selected in gathering, it brings a lower price than when the frame is used and a careful selection made. Frame hives generally yield 8 or 9 gallons of honey per year. Both the frame hives and the barrels used for shipping honey are imported from the United States.

There are no regular dealers in honey in Sagua la Grande. The trade is carried on through retail grocers (bodegueros), who forward both honey and wax to Havana. It is said that formerly shipments were made direct to the United States, but at present bee-keepers seem to prefer to deal through Havana, even at a lower price.

(From Consul R. E. HOLADAY, Santiago de Cuba.)

The value of the annual production of honey and wax in eastern Cuba ascends, under normal conditions, to the respectable sum of $200,000, and constitutes one of the most important of the special industries for the man of small capital.

The business is confined to certain of the hill districts, and to sparsely cultivated river valleys, as the blossoms of wild plants are mainly depended upon to furnish the supply. Apiaries are found, however, on most coffee and cacao estates, as a very good, though dark, quality of honey is derived from the blossoms of these trees. An apiary is, therefore, a very valuable subsidiary asset to the coffee and cacao grower.

It is a fact, however, that apiculture here is far behind the United States; due probably to the fact that few persons are engaged in the business exclusively, and to the disinclination of the natives to adopt more modern appliances for hiving and handling the bees and manipulating the crop.

Annual Production—Methods Employed

No statistics are published by the State as to the annual honey-production and the value thereof. It is estimated, however, from the most reliable sources obtainable, that the production for the 1909-10 season was 250,000 gallons of honey, valued at $100,000, and 255,000 pounds of wax worth $66,300. The crop was considerably below the average, on account of the drouth prevailing during that year. The annual production of a colony of bees in an American hive, under normal conditions, is stated to be 20 gallons of honey, and 3½ to 4 pounds of wax; and in a native hive from 12 to 15 gallons of honey, and 2½ to 3 pounds of wax. A colony or hive of bees is worth from $4.00 to $4.50.

As the climatic conditions in Cuba are such that the bees work practically every day in the year, honey may be collected from the hives at any time, but two principal crops are generally realized from the industry. The spring crop usually begins with the first rains in March or April, and lasts until June or July; and the fall crop begins in September and lasts until February. Those apiculturists who use American hives are able to take honey from the hives at any time, thereby affording the bees opportunity to work advantageously and also securing considerable increase of production.

The native Cuban hive consists solely of a cedar log about 4 feet in length, hollowed out, and split through the center so that one part can be laid over the other. Usually a weight of some kind is placed over the top to hold the two pieces together, though sometimes a staple is used to accomplish this. The more progressive apiarists use extractors for separating the honey from the comb, but many of the natives use common jute-bag suspended from a vessel into which the fluid is allowed to drip while the comb remains in the bag.

The value of bee-hives imported into the island for the fiscal year 1907-8 was $600, and for 1908-9, $2779; the value of all other apicultural apparatus was $567 and $545 for these same periods, respectively. Bee-hives and other bee-keepers' supplies imported into Cuba are exempt from duty.

Most of the honey and beeswax produced in Santiago de Cuba Province is exported to the Netherlands and Germany. The value of the honey shipped from this Province to the United States in 1909 was $3164, and in 1910, $4399; and the value of the beeswax $10,297 and $9080 respectively.

(A list of the principal producers of honey in the Cienfuegos district, and one of merchants handling bee-keepers' supplies in Santiago de Cuba, forwarded by the consuls, may be obtained from the Bureau of Manufactures.)

◆

Discontinuing Subscriptions to Bee-Papers.—Occasionally we receive a letter similar to the following:

> A very poor year for me on bees. So don't send the American Bee Journal any more if you expect me to pay for it, as I can't afford it.
> SUBSCRIBER.

This was also a case where the subscriber was owing on his subscription for 4 months, but said nothing whatever about paying what was past due.

Of course, it is very fortunate that the publishers of any bee-paper do not receive many letters like the foregoing, for if all subscribers would do the same way during some poor year there would soon be no bee-papers at all. It seems that some forget that the publishers can not discontinue getting out a bee-paper during a poor honey season, and then start in again when a good season comes. A splendid way for bee-keepers to do would be to pay for their bee-papers several years in advance, so as to carry them over a poor season or two. It certainly is not fair to the publisher of a bee-paper to expect that it will be continued right along during both poor and good seasons, and be subscribed for only during the years when there are good honey crops. In order that the bee-keepers may have a bee-paper at all, it is necessary that its publisher shall keep it going *at all times*, and he, of course, can not do this unless he receives pay for subscriptions all the time.

We regret to say that there are quite a few bee-keepers who are perfectly willing to continue to receive a bee-paper right along and do not seem to care whether they pay for it or not. Of course, this is not honest. The only right way to do when a bee-paper, or any other publication, is not wanted any longer is to pay up whatever subscription is past due, if any, and then request its discontinuance.

Another very important thing is overlooked by those who discontinue their subscriptions during a poor season, which is this: It may be that in the copies that they will miss there will be information that would be worth many dollars to them, and by not receiving the copy of the bee-papers *regularly*, they will not be able to take advantage of such valuable information. Of course, any one really interested in bee-keeping, and who wishes to make the largest success of it, will not only take one bee-paper regularly, but will be many times repaid for taking *all* that are published in this country. There are three bee-papers in the United States—two monthly, and one semi-monthly—and all of them can be had for only $2.50 a year. Send us that amount and we will attend to ordering the other two besides the American Bee Journal. Surely, any real bee-keeper who wishes to make the most out of his bees can find a good many times $2.50 worth of practical information in the three bee-papers during a year. One can not learn too much about the business in which he wishes to succeed.

We trust that we may have the hearty co-operation of our subscribers along the line indicated in the foregoing. And permit us to repeat that, as suggested, a better way would be to pay your subscription for several years in advance at the end of a good season, and then, should a poor season come along, you could be sure that the bee-paper would continue coming just the same.

◆

"Fifty Years Among the Bees."—This is the new name of Dr. Miller's former book, "Forty Years Among the Bees." He has thoroughly revised it and brought it right up to date. It is published by Gleanings in Bee Culture. No doubt any one having the previous edition will be glad to have "Fifty Years Among the Bees" also, as the new matter alone included in this latest book is well worth the price of $1.00, for which amount the book is mailed. One having "Fifty Years Among the Bees," and also "Forty Years Among the Bees," can give the latter to some bee-keeping friend, or, perhaps, sell it at half the price of the new book.

Dr. Miller is too well known to our readers to need any introduction. What he writes on bee-keeping is thoroughly practical, resulting through his experience of 50 years' work with bees.

"Fifty Years Among the Bees," like its predecessor, is published on a royalty, so that from every copy sold to bee-keepers, Dr. Miller himself will receive a profit. So every one getting the book will be helping Dr. Miller, also. We hope that each subscriber of the American Bee Journal will get a copy of this new book. We will be glad to fill orders at the regular price of the book, which is $1.00, postpaid, or mail it with the American Bee Journal for one year—both for $1.75.

◆

Minn. State Capitol and Minnehaha Falls.—On the front page this month we show two pictures that were taken the day following the meeting of the National Bee-Keepers' Association at Minneapolis, Aug. 30th and 31st. We mentioned, on page 296, the pleasure-trip taken by those who remained after the convention, there being between 60 and 70 in all who were in the company that went to St. Paul, Minnehaha Park and Falls, etc.

The upper picture shows a part of the State Capitol Building of Minnesota. We are sorry that all the dome does not appear, as it is very beautiful. In fact, the whole building is grand. The "woman in white," who shows so prominently on the capitol steps, is Mrs. Fred W. Muth, her smiling husband standing just back of her to the right when facing the picture.

The lower picture represents a view in Minnehaha Park. What is left of the Minnehaha Falls is shown at the upper hight-hand corner of the picture. At that time there was very little water falling, as will be seen. We understand that since then the rains have increased the flow of water, so that now it looks more natural.

The group shown in the lower picture is standing on a stone bridge some 60 or 70 feet below the surface of the ground that is on a level with the top of the Falls. It is a beautiful ravine, and the vegetation and everything connected therewith was simply bewitching.

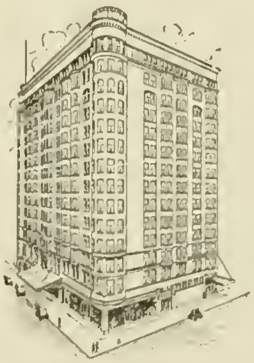
No doubt those who were fortunate enough to be in the two companies shown can pick out their own pictures in the groups.

◆

Mr. John C. Frohliger, of San Francisco, Calif., has been giving very interesting and instructive illustrated lectures on bees in that city. He exhibits manipulations with live bees, which are always a great attraction to any crowd of people. Mr. Frohliger has been a bee-keeper for many years in Ohio, but now represents the W. T. Falconer Mfg. Company on the Pacific Coast. We are always glad to learn that any one is helping to educate the public concerning bees and honey. We believe that all such exhibits and displays tend to increase the demand for honey.

◆

Chicago - Northwestern Convention.—The annual meeting of the Chicago-Northwestern Bee-Keepers' Association will be held in Room L 38 of the Great Northern Hotel, corner of Dearborn Street and Jackson Boulevard, Chicago, Ill., Wednesday and Thursday, Dec. 6 and 7, 1911. The location of the convention room is only two blocks further south on Dearborn Street than where the convention was held last year. The Great Northern Hotel is one of the largest and best hotels in Chicago, and the Association is very fortunate in being able to meet there, for it is not only more centrally located, but the convention room is the best in which any meeting of bee-keepers has ever been held in Chicago.



GREAT NORTHERN.

As all know who have ever attended a convention of the Chicago-Northwestern Bee-Keepers' Association, it has good meetings, and the one next month will probably be one of the best it has ever held. Although the honey crop has been short in the States surrounding Chicago, still we believe there is sufficient interest on the part of bee-keepers, and inspiring hope for a good crop next year, that there will be a good attendance at the coming meeting. Secretary L. C. Dadant, of Hamilton, Ill., is preparing the program, and will notify all of the members concerning the meeting. Any further information that may be desired can be had by applying to him.

The convention dates are during the International Live Stock Exposition here in Chicago, and also, we believe, during the "Land Show." There are always plenty of other attractions in Chicago at that season of the year, so that if there are any low railroad rates to be had on account of the "Land Show" or the Live Stock Exposition, the same can be secured by bee-keepers also. Apply to your local railroad agent for information concerning any low rates that may be in force at that time.

We hope that the bee-keepers in at least the States surrounding Chicago will make it a point to be present at this meeting, for there are a number of very important questions which will need careful consideration, and better results will be had through a large attendance than through a small one. Come, if possible, and help to make this next meeting of the Chicago-Northwestern Bee-Keepers' Association the best of all the year.

(*Conventions continued on page 342.*)

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Honey-Values in the Home

It is a great pleasure to a bee-keeper to find a good word for honey in the household, no matter where that word may be found, but it is especially agreeable to find it in one of our popular secular magazines. It is worth while to make an extract from an article in Suburban Life, written by Eva Ryman-Gaillard, because in Suburban Life it will do ten times as much good as if printed in all the bee-papers—perhaps a hundred times as much. It is not merely that Suburban Life has such a large circulation, but because of the class of its readers. The bee-papers are read chiefly by those who have honey to sell, while other magazines are read by prospective purchasers of honey. For every one of these last who read bee-papers, probably a thousand read Suburban Life. Here is the extract:

> Most suburbanites would keep a few hives of bees if honey-values were better understood. Even when the honey must be purchased, its real value is so out of proportion to its cost that it should be included among the every-day necessities.
>
> Comparatively few housewives use honey as a substitute for sugar in baking, but managers of large bakeries, always on the alert to find the best and most economical ingredients to use in their productions, value it at its worth, and use it in making their choicest products, because it provides a variety in flavor. It produces lighter and finer cakes, and those in which it is used have superior keeping qualities.
>
> Honey has both food and medicinal value worth considering. Among foods, it is of the fat-heat and energy-producing class. As a medicine, it is wonderfully soothing and healing in any throat and lung affections, many physicians claiming that it is equal to cod-liver oil as a healing and tissue-building agent. It is claimed, too, that its stimulating power is nearly equal to that of good wine, with none of the wine's bad effects.

Honey for Freckles

From the beauty column of a Chicago daily comes the following:

> Honey and almond paste to be spread upon the hands at night, and the hands covered with large gloves. Four ounces of almond meal, 8 ounces of oil of sweet almonds; extracted honey, 8 ounces; yolk of egg, ½ ounce. Melt the honey separately, pour the almond meal into it, and knead together with the beaten yolk of egg. Add the oil and knead again until a soft paste is formed.

Here is another from the British Bee Journal:

> A good freckle cure is the following: Eight ounces of extracted honey, 2 ounces of glycerine, 2 ounces of alcohol, 6 drams of citric acid, and 15 drops of the essence of ambergris.

An Experience of Two Women Bee-Keepers

May Thirlwall thus gives in the Canadian Bee Journal the experience of two women:

> In 1002, mother and I were left with about 75 colonies on our hands. When they were to be sold we thought that as we had produced our own honey for so many years we would try and keep a few colonies. Mother had helped father in every way for over 10 years, so she had the knowledge, and I was determined I would overcome my fear of them and help her. All my previous experience amounted to was knowing and telling when they swarmed; smoking them sometimes, and if one stung me drop the smoker and run.
>
> We kept 5 colonies and an ample supply of surplus hives. We had a good honey-house, extractor, and everything to work with, and as Mr. Alpaugh said, "An ideal bee-yard."
>
> By giving the bees plenty of surplus room; watching queen-cells, and clipping queens' wings, we have been troubled very little with swarming. We use a solar wax-extractor, so have little yellow wax. We also make honey-vinegar.
>
> The first year (1902) we cleared $45 from the 5 colonies, and wintered 7. Only one colony died during 7 years, and our profits averaged between $40 and $70.
>
> We traded 2 or 3 hives for more supplies, and doubled some up in the fall. In the autumn, 1908, we had 14 strong colonies. Two of these were dead, however, in the spring of 1009, but we made $100 clear, and put 13 colonies away in October.
>
> We have no trouble in selling our honey, as we always try to produce an A1 quality. Customers come to the house for it, and many orders reach us after it is all sold. We extract the dandelion before the clover begins, and do not mix the last in the fall with the basswood, but sell it at a much lower price.
>
> Keeping bees is not all pleasure or profit. It means a lot of hard work, but I do not see why it is not a suitable occupation for women. I think two can manage better than one, as the hives are often heavy to lift. We have had all the honey we wanted for ourselves, and made a little pin money.

A Make-Believe Bee

Lady Henry Somerset tells how her attention was first called to the work of relieving the sufferings of poor city children:

"It was this way," she said. "I was moved in that direction by the rare patience and imagination of one little boy. His example convinced me that patience was one of the qualities I needed most, and in seeking it I grew into that work. I was in a hospital on visiting day, while the doctors were changing a plaster cast which held a crippled boy's limb. The operation was exceedingly painful, I was told. To my surprise, the little sufferer neither stirred nor winced, but made a curious buzzing sound with his mouth. After the doctors left I said to him: How could you possibly stand it?" 'That's nothin',' he answered; 'why, I just made believe that a bee was stingin' me. Bees don't hurt very much, you know. And I kept buzzin' because I was afraid I'd forget about it's being a bee if I didn't.'"—*Selected.*

Bees Making "Calico" Combs

> As I had no wood cover for the super on the hive, I covered the sections in the super with a piece of clean black calico. Imagine my astonishment when in a few weeks I examined that hive to find that the bees had literally eaten up that black cloth and made it into combs for sections, and was rapidly filling the combs with honey. I am sure they mixed it with the wax in some way, for the honey-comb was a beautiful black, and the cloth eaten up. Ohio Bee-Woman.

Something of the same kind has occurred here. Black oilcloth was over the sections, and the black was worked into the cappings, but into the cappings only. It seems that the bees work into the cappings bits of pollen or anything easily within reach. That is the reason it will not do to have sections too near the brood-combs, for, if too near, the surface of the sections will be darkened by particles of the brood-combs mixed with the cappings.

Summer and Bees

Have you seen the meadows glowing with the clover all a-bloom?
Have you smelled its fragrance blowing thro' the balmy month of June?
Have you heard the bees a-humming thro' the long and sunny days?
Have you seen their wings a-flashing in a busy, busy maze?

Have you watched them coming in, like a cloud from out the field,
Laden with the choicest sweetness that the blossoms ever yield?
Have you listened in the moonlight to their deep, persistent hum?
Have you felt your pulses quicken with the harvest that's to come?

Have you peeped into the hive when the combs are growing white?
Have you seen the rich drops glisten as you hold them to the light?
Have you weighted up a super when it almost broke your back?
And placed an "empty" underneath for those busy bees to pack?

Have you heard the mad vibration of a myriad wings in air,
Which tells you very truly that a swarm is surely there,
In a high old orchard tree seen them cluster, rich and brown?
Have you climbed a wobbly ladder and brought it safely down?

Have you seen the basswood laden with its sweetly scented flowers,
Which the bees have come to rifle thro' all the daylight hours?
For there's nothing in this world tempts the bees so far a-field,
As those clustering pearly blossoms with their precious sweets unsealed.

Have you carried in the heavy combs all ready to extract,
And seen the white wax crinkle up at the uncapping-knife's impact?
Have you filled up with the honey the pails so bright and clean,
And sent it to the markets—a food fit for a queen?

If you have, you've learned a secret from the golden summer days,
Which takes you close to Nature's heart and teaches of her ways;
For the heart of all the summer is the humming of the bees
In the fragrant clover blossoms and the whispering basswood trees.

The foregoing poem was written by Miss Ethel Robson, the able conductor of the "Woman's Department" in the Canadian Bee Journal. To her various interrogations, we of this region must sadly answer, "Well, no; not this year."

Two Honey-Cake Recipes

Honey Layer Cake.—One cupful of honey, ¼ of a cupful of butter, 3 eggs, ½ a cupful of milk, 2 cupfuls of flour, and 1½ teaspoonfuls of baking powder. Cream the butter and honey together, add the eggs well beaten, and the milk, flour and baking powder. Mix well and bake in two jelly-tins. When the cakes are cold take finely flavored candied honey, and after creaming it spread it between the layers. Cover with white frosting and decorate with orange and almonds. Make frosting by beating the whites of 2 eggs, juice of one lemon, and enough confectioners' sugar to thicken.

HONEY-CAKES.—Put 2 heaping tablespoonfuls of butter into a saucepan over the fire, and when melted stir in ½ pound of honey. Remove from the fire, and when cool mix with it the grated rind of half a lemon, 2 heaping tablespoonfuls of chopped almonds, ½ a teaspoonful of grated nutmeg, 2 cupfuls of flour, and one level tablespoonful of soda dissolved in a small quantity of warm water. Leave the mixture in a cool place for 12 hours; then roll it out ½ an inch thick, cut it into round cakes, and decorate with shredded almonds. Bake in a moderate oven for 20 minutes.—*Ladies' Home Journal.*

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Prices of Colorado Honey

Comb honey is selling for $2.75 to $3.25 per case for No. 1 white, and $2.40 to $2.90 for No. 2 honey. No. 1 light amber brings about 15 cents a case less than the No. 1 white. I do not know of any No. 1 white honey packed in single-tier cases bringing over $3.00 a case, while several cars of honey packed in double-tier cases have sold for $3.25 for the No. 1 white, and $3.10 for the No. 1 light amber. At the present prices I think there is more money in comb honey than in extracted at 6 cents to 7½ cents per pound.

Foul Brood Treatment in the Fall

It has been repeatedly recommended to carry over colonies with but a few cells of foul brood until the following spring for treatment. That may be a safe procedure for some localities, but here in the arid country the bees breed quite heavily during October and all through the winter. I have seen colonies with but a half-dozen cells of disease in late August, and in October 2 to 4 combs rotten with the disease. It can not be recommended to try and carry over diseased colonies—better treat them and give clean combs of honey for them to winter upon.

Bees Killed by Smoke

Mr. R. W. Ensley, of Delta Co., Colo., tells me that he killed a colony of bees with the smoke from a black cloth (part of an old dress). He thinks it was the dye in the cloth that killed the bees.

The Average Small Bee-Keeper

The average small bee-keeper keeps bees as a sort of gambling proposition. All the bee-work is summed up in putting on and pulling off the top boxes, and trying to catch the swarms when they appear. He thinks that if he can get a little honey it is so much "easy money." This may "go" in some places, but where foul brood is rampant it is a losing proposition for the average bee-keeper, and a very costly one for the large bee-keeper who has bees near by.

It can not be too strongly emphasized either to *keep bees*, or sell out to some one who can. This should not discourage the careful amateur, as I know many a small bee-keeper who is as up-to-date and well-informed as many a specialist.

In my work of inspection it is common to find some elderly man with 30 or 40 colonies, and foul brood in many of them—his bees are all right; there never has been anything wrong with them—but he has had "bad luck" the last few years—the yellow-jackets killed many of his colonies, and the ants got many of the others. If you suggest disease—oh, no! never any disease got into his yard! He has no use for these new scientific ideas, anyway. Then, perhaps, he will launch into a tirade against the whole theory of germs as the cause of certain diseases. But a younger member of the family reads the bulletins and papers, and takes charge, transfers into modern hives, and soon we have a progressive bee-keeper.

When I meet one of these old fellows, that knows more about bees than all the rest, I do not lose hope until I find he has no children or grandchildren.

Sugar and Honey Prices

At the present price of sugar, which is right around 9 cents a pound, it seems the bee-keepers would have a good chance to increase the consumption of honey through advertising. Honey at the same price as sugar should go like the proverbial hot-cakes, for which honey was intended, anyway. It is, however, a fact that sugar is selling at $9.00 a hundred-pound sack, and honey at 6 cents a pound for extracted in a good many towns in Colorado. This is a strange condition, and it will not obtain for a very long time.

Honey-Prices and Home Comforts

I know a good many bee-men—and they are pretty much like other folks—most of whom do not have very many luxuries; their houses are small and families large. In the kitchen is a cupboard, stove, table, and a few wood chairs. In the dining-room are a few pictures, cheap lace curtains (perhaps with holes in them); an organ in a corner. There may be a spare room with a marble-top washstand, and a red or blue rag carpet on the floor. On the wall hangs the marriage certificate, a "God Bless Our Home," and a "spot-knocked" enlargement from a tin-type of Uncle Ebenezer or Aunt Samantha. They have hot biscuits, fried eggs, and coffee, for breakfast.

Now, the bee-man may have a crop of 5000 pounds of extracted honey; he sells it for 6 cents a pound, and it brings him $300; but he has to pay $50 for cans, and as much more for other supplies. Can a man with a family live on this? Perhaps not; but I know some who do, with what they get from the garden, chickens, cow, etc.

Fifteen cents a pound would bring this man $750.00 for his crop, and it is worth it, every bit. This would mean music lessons for the girls; a slide trombone for the boy; a chance for the girl at the Normal, or a term in the manual training school for the aspiring boy. You need not tell me that a fairer remuneration for labor would not mean greater *life* to the masses of the people. I think it would be well to remember the moral aspects of this endeavor for better prices in honey. The price tends upwards now—let us do our best to aid the betterment all along the line.

There is another side to this, and that is, that the average bee-keeper, farmer, fruit-grower, etc., does not have a plan on a large enough scale. He thinks in terms of hives instead of apiaries. He is mastered by fear of failure. Let us strive to usher in better bee-keeping, and better prices for our honey. It will mean happier homes, and more smiles and kindness all around.

"Langstroth on the Honey-Bee"

This is one of the standard books on bees. It tells in a simple, concise manner just how to keep bees. It was originally written by Rev. L. L. Langstroth, who invented the movable-frame hive in 1851. The book has been brought right down to date by Dadant & Sons, than who there are no better or more practical bee-keepers in this or any other country. It contains nearly 600 pages, is fully illustrated, and is bound in cloth. Every topic is clearly and thoroughly explained, so that by following its instructions no one should fail to be successful with bees. Price, postpaid, $1.20; or with the American Bee Journal one year—both for $2.00. Send all orders to the American Bee Journal.

"Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, $1.00; or with the American Bee Journal, one year—both for $1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for $1.25. Send to the American Bee Journal.

SOUTHERN BEEDOM~

Conducted by Louis H. Scholl, New Braunfels, Tex.

Experimental Apiculture Fascinating

There is something fascinating about experimenting, to the average enthusiast, and the writer is one that is not lacking in this direction. The consequent result is that there is always more or less experimental work going on in our extensive bee-keeping business, and we have long ago found that this is but a step in the right direction, and gives us the advantage of ascertaining for ourselves methods that are the best applicable to our manner of managing a large establishment of numerous apiaries as ours is at this time. Yea, more than that—it enables us to increase our business from year to year, as we gain more experience, and this is quite in accord with the motto, "Keep More Bees," that is tacked up in our mind.

Right along the line of the above it might be of some interest to the readers to learn that we have established a series of apiaries in such a way that we can leave New Braunfels in the early morning for a pleasant drive from one apiary to another, travel 24 miles, and visit 8 different apiaries on the round, and at the same time study the difference and the habits and value of 8 different races of bees, then arrive at home again by noon to enjoy our mid-day meal.

The home-yard, consisting of 30 colonies at this time, known as the "Comal Apiary," because it is located near the banks of a creek by that name, is stocked with Caucasian bees—the gentle race that attracted so much attention at one time, but which race did not become very popular except with a few bee-keepers who claim a good deal for them. There may be something in different strains of this race, and this is one reason why we will give them a thorough trial in this yard. The main reason for having the Caucasians in one of these yards, is that visitors who come here to study bee-keeping matters, of which we have many throughout the year, may see the various races.

Two and one-half miles from the city is located the "Ickels Apiary," which is our Holy Land apiary. Here the bees that are not very popular with many bee-keepers will be kept in their purity. We have had these bees for about 15 years, find them good honey-gatherers, excellent comb-builders, and the queens are very prolific; therefore, the colonies are always strong, which accounts for large yields of honey being stored by them. But their nervous disposition and consequent irritability and stinging habit make them very disagreeable to handle; besides, they do not cap their honey-comb satisfactorily for comb-honey production, placing the cappings right on the honey in such a way that the combs have a very watery appearance.

The third apiary, is the Weidner Apiary," 4 miles away, where nothing but the 3-banded Italian bees are kept. This old race, that has been found by the majority of the bee-keepers as the best all-purpose race of bees, has always been recommended by us, not only to beginners, but to all persons who have asked us for advice regarding the various races of bees. They are gentle, good honey-gatherers, defend their hives well, and are an all-around good race of bees.

There are 50 colonies in each of the last two mentioned apiaries—the number that we have found is the best number to keep in one yard in our locality, with the honey-flora and other conditions that exist here.

The "Nuhn Yard," with 82 colonies, is 9 miles from New Braunfels, and consists of Golden Italians. These bees do not seem to be as hardy a race as the 3-banded Italians, but they are very good honey-gatherers, and cap their combs whiter—a very good point in favor of comb-honey production. Since much increase was made at this yard after the honey-flows were over, it happens that there are 32 colonies above the regular number at this place now, but which will be moved to a new location in the winter to establish another apiary 3 miles from this yard. The new yard will be the "Marion Apiary," 11 miles from home, where we will establish our sub-headquarters next year, Marion being a town on another trunk railway. From here a dozen apiaries will be managed by a manager who resides at this place permanently, thus taking a load off the New Braunfels headquarters that has become quite an obstacle in out-apiary management with us. In other words, all the apiaries in that direction, and over 7 miles from New Braunfels, will fall to the Marion headquarters. It required a good deal of extra travel and unnecessary hauling to manage these apiaries at the long range, as we have had to do heretofore under the old management.

Turning back from Marion in another direction, we come by the "Santa Clara Apiary," at the head of a creek by that name, where there are over 50 colonies of Banat bees. This race has not been tried extensively by the writer, so that we do not know much to report on them. But from the breeders from which we obtained our stock for this yard, we have many words of praise for this race. Another season we may be able to make a good report on them also.

The "Soms Apiary" is one with the gentle Carniolan bees—a race that we have had in our yards for a dozen years. We like them for their large size, their gentleness, their prolificness, and their way of capping the comb honey very white. We really do not admire their black color, and especially so when we wish to find the queens, as these are somewhat harder to find than the yellow queens of other races. This, of course, does not apply to those who handle them very much, and thus become used to finding these dark queens, we presume. Another objection is their inclination to swarm, which is a serious factor in out-apiary management; however, we have not had very much trouble in that respect with the large hives we use, and the manner of hive-manipulation that we employ just before and during the swarming season.

Coming still closer home, 2½ miles west of the city, we arrive at our "Queen-Rearing Yard," established last year for the sole purpose of rearing our own queens for our many apiaries. This yard was stocked with all the best breeding queens that we could obtain, of the 3-banded Italian race. Our queen-rearing work was very successful for a time last spring, and our first lots of queens were beautiful ones, and all purely mated, since there were no other bees around in that neighborhood. But it happened that the very next neighbor, on the adjoining farm, caught the bee-fever from across the fence, and lo, and behold! within 2 months he was well supplied with more than a dozen colonies of all varieties of bees except any pure Italians or any other race that was in its purity.

That put a stop to our pure mating, and being impracticable to Italianize his bees, besides deciding that we would not continue to rear queens in this yard, we have changed them to the Cyprian race. This race is too well-known to need further description here, but we have tried them for a dozen years or more, and know that they are the worst stingers we have ever had in our yards. It may, therefore, be one reason why we placed these bees in the yard at this place, so near to the person we think has intruded upon our rights (?), knowing that the cross-mated stock that will follow naturally in any neighboring apiaries (?) is still harder to handle than the race in its purity!

This brings up the question again regarding the priority rights of a bee-keeper in a certain locality. In our case, we were the first to place an apiary in a location where nobody had ever thought of going into the bee-business. Then comes the neighbor and contracts the bee-fever; owns the land next to the place where we have rented the ground for our own apiary, and plants his apiary. What is going to keep him from doing so on his own land? Or what is going to help me to go there and keep him from doing so on his own land? Those are questions that we would like to have some of the "priority-rights people" answer for us!

But such is a story of the location of 8 of our apiaries, with as many different races of bees, in such a way that they can be visited in half a day's drive. Any of these yards can be reached within a short time, as the farthest is only 11 miles away, while the others range all the way from 2½ to 4, 7 and 9 miles.

CANADIAN BEEDOM

Conducted by J. L. Byer, Mt. Joy, Ontario.

Rare October Weather—Late Brood-Rearing

"What so rare as a day in June?" With considerable emphasis could the quotation be used at the present, by simply substituting the word "October" for "June." The latter half of September was cold and dreary, and not at all weather that the bee-keeper likes during the time that the bees are being fed up for winter, yet in our own case that work was all done by the first of October. During the past 10 days the weather has been simply ideal, and if we had known how things were going to turn out of course feeding would have been delayed for a week or so.

The rains of the latter end of September, followed by the present warm weather, caused an unusual amount of dandelion to come in bloom for this time of year, and we have the unusual experience of seeing the bees carrying in pollen from this source in the middle of October. When feeding was started, about Sept. 20, very little brood was in evidence in any of the hives, many colonies having none at all. Since the fresh pollen has come in, I find that most of the colonies are doing quite a lot of brood-rearing, and I am not at all sure that this factor will be of any benefit so far as it affects the wintering of the bees.

October 14th I received a few queens, and in hunting out a couple of old queens, my attention was called to the amount of brood-rearing going on. My curiosity caused me to look into a number of colonies, and in every case there was brood in about 3 combs, the circles averaging about 4 inches in diameter. The colonies are very heavy in stores, else no doubt there would be still more brood. In a few cases I noticed fresh pollen in one comb to the extent of about 4 inches or so in diameter.

To my mind there is no question but what this fresh pollen coming in so late in the season, is responsible for the late brood-rearing going on, and I shall watch with interest as to what the effect on wintering will be. In all the hives examined, eggs were being laid freely, and that means that quite likely a number of young bees will go into winter quarters without having had a winter flight. Those going into the cellar will thus have young bees in the hives that have never had a flight, and can not possibly have one for at least 4 months or more.

* * *

The Ontario Convention, Nov. 15-17

The annual convention of the Ontario Bee-Keepers' Association will be held in Toronto Nov. 15, 16, and 17, 1911. Judging from what I have learned, the proposed program of the convention promises to be a record-breaker in many respects. Among the features that look attractive, is an address by Inspector Charles Stewart, of New York State, one of the veterans in the foul-brood work, and a man known as a hustler by all who have come in contact with him. E. B. Tyrrell, Secretary of the National Association and Editor of the Bee-Keepers' Review, will also be there and talk along the line of co-operation so far as the principle can be applied to the benefit of bee-keepers in general. Dr. E. F. Phillips, of Washington, D. C., is billed for two addresses, each of which will be illustrated by lantern views, if I am correct. Many well-known bee-keepers on this side of the line will be in attendance, and in addition to the few mentioned from the other side, of course we look for a great many others to be present, too.

There will be single fares on the railways from all points in Ontario, as the Horticultural Show will be in progress at the time of the convention.

The writer is certainly looking forward with pleasure towards having a profitable time, both from a business standpoint as well as the social side, and I have no doubt but that many others are feeling much the same. On behalf of the Ontario Association I feel that I am but voicing their sentiments when I extend a hearty invitation to as many of our neighbors "over the line" as can possibly do so, to come and have a good time with us, and at the same time see that Canada produces other things besides icicles. A visit to the Horticultural Show, which I have mentioned, will go a long way towards proving the latter claim.

* * *

Amount of Sugar as Substitute for Winter Honey-Shortage

On page 293, considerable space is devoted to discussing how much sugar should be given to make up a stated deficiency in natural stores in a colony of bees. The summing up of the discussion is about as follows: Give five-sevenths of a pound of sugar to every pound of shortage, no matter what the strength of the syrup.

A few years ago I was pretty much in line with that view, and I remember distinctly of having a spirited argument with Mr. John Newton, of Thamesford, Ont., when he contended that it took a full pound of sugar to equal a pound of honey so far as providing winter stores for bees was concerned. Mr. Sibbald, at the time, sided with me, when I contended that the estimate was too high, as at that time I thought that about the proportion given in the item I am referring to, was about right.

While I don't know whether Mr. Sibbald has changed his views on the matter during recent years, I certainly have changed mine, as, after careful experimenting and watching results in a number of years, I am now of the opinion that the claim made by Mr. Newton was correct. At any rate, when I find a colony that is 10 pounds short of what I want it to be, that colony gets 15 pounds of syrup made on a basis of 2 pounds of sugar to one of water. By comparing colonies thus prepared with others that had enough natural stores, I find that it works out about equal. No question but that for a short time after feeding the colony given the 15 pounds of syrup will outweigh the one that had enough natural stores, but in the month of April the difference will not be apparent.

* * *

Stimulating the Queen in Early Spring

I have read with much interest what Wesley Foster says, on page 269, about the matter of stimulating the queen to lay in the early spring, by spreading brood and uncapping honey. I suppose he knows what he is talking about for his "locality;" but, my! I wouldn't want to play that game with my bees here in Ontario. He admits that much brood is chilled even in his locality by the methods he employs, yet thinks that he is the gainer in the end.

After considerable study and experience, I have come to the conclusion that, nine times out of ten, the queen will lay all the eggs the bees can take care of in the early spring, and that any so-called stimulating at that time is apt to act like a boomerang. Please understand that I am speaking of Ontario, and not of Colorado. At the same time it would take a good deal of courage on my part to get me *started* to play the game even if I moved to Colorado.

* * *

Imperfections of Bee-Keepers

On page 302, Mr. Wilder bewails his imperfection as a bee-keeper, and, to tell the truth, I am a bit out of patience with him for talking like that. The *perfect* man, be he a bee-keeper or follower of any other business, is a *rara avis* indeed, and if such a man existed and was *aware* of his perfection, he would at once be spoiled by getting a "big head."

If the writer of these notes were to begin to think of his imperfections, the chances are that he would go out of bee-keeping or any other business he might be engaged in; but knowing the frailties of human nature he keeps plugging away, making blunders innumerable, almost every day of his life.

It is generally understood that a bee-keeper is, as a matter of course, a good mechanic as well, but in my case I have a positive dislike towards handling tools, and scarcely ever try to make anything in the line of hives, frames, etc., that go in line with an apiary. Some time ago a certain writer in the American Bee Journal said that unless a man was handy in the line suggested, he should not engage in bee-keeping, and, incidentally, insinuated that he had no business to be in that particular calling. Without taking time to look up the item, I remember having replied in substance that it was none of his business how other bee-keepers were qualified in other branches, so long as said bee-keepers lived straight enough to keep out of jail and did their lawful duties as citizens of the land. No, Mr. Wilder, no matter what you think of *yourself*, the rest of us think you are *all right*, so please do not belittle yourself any more in the future.

Say, I am right with you, though, on that vacation business, and would like to go visiting with you. Only if there happened to be some fishing near our travels you certainly would lose me unless you went angling, too, as I always "go fishing" when I get tired and want a change of scenery.

◆

Alfalfa in the East and in Canada

Gleanings in Bee Culture reports that in New York State, in the vicinity of Syracuse, alfalfa yielded honey very rapidly this season. It would be interesting to know just how the weather conditions were at that time, as possibly it may yield heavy here some time. Mr. Holtermann, of Brantford, reported that it yielded best with him during a season when much rain was in evidence, while, on the contrary, the only time it ever did anything here was at a time of pretty severe drouth.

This season the alfalfa simply turned yellow with the heat and drouth, and I doubt if a drop of honey was gathered from it. As the acreage is rapidly increasing each year, it would be very gratifying indeed if alfalfa could become a honey-plant to be depended upon. However, the farmers cut it before it blooms very much, so quite likely it will never be a honey-plant of importance in our section of country.

BEE-KEEPING IN DIXIE

Conducted by J. J. Wilder, Cordele, Ga.

Death of Mr. R. W. Herlong

It is with regret that I announce the death of R. W. Herlong, of Fort White, Fla., which occurred Oct. 11, 1911. He was sick only 5 or 6 days, and his death was not expected, for up to that time he was in his usual good health, working in his apiaries and packing houses, removing, packing and shipping his fall crop of honey, for, as the Dixie bee-keepers know, he was one of our most extensive and best bee-keepers.

Fuller particulars will appear next month.

◆

Good Management, Supplies and Stock

Mr. Wilder:—I am surprised beyond my expectation in the amount of honey and the difference in better management and better stock of bees. This is all we need here to harvest great crops of honey, and make money at bee-keeping. From the honey-flow from cotton alone I harvested 10,000 pounds of light-colored, fine-flavored honey.

If my county was properly stocked with the best bees, and well managed, we would ship out several car-loads of honey each season. Those around me are questioning me no little about my improved bees, hives, methods, etc. I had a letter from T. S. Hall, of Pickens county (this State), a few days ago, saying that his bees were "rolling in the honey." J. W. Cash.

Bogart, Ga., Sept. 22

On the brows and summits of the "red hills" of North Georgia, near Athens, will be found a large number of neat modern apiaries owned and operated by Mr. Cash. He buys the best of supplies and uses full sheets of comb foundation, and of late has put in a stock of good bees, and his letter above explains itself. But allow me to say that Mr. Cash rears his own queens from the best stock obtainable. But he is located in a section that is far below an average for honey-production.

Good supplies, good stock, and good management will cure any first-class case of dissatisfaction in bee-keeping. I wonder if any reader needs the remedy.

Dissatisfied With the Yellow Bees

I see from the bee-publications that the Italian bees have not given you satisfaction, and you have fallen upon something better in a darker variety known as Caucasians. Well, I have never been satisfied with these yellow bees, either, the queens of which I have been getting from the queen-breeders. I have bought yellow queens from almost all the queen-breeders of the United States, and just about half of them proved to be good queens.

The yellow bees are too tender for the bee-keepers who are so far north as I am. Winters are too severe and long. I believe the bees you have would prove better for Canada. I notice that you say that you are not a queen-breeder, and do not expect to be. If I can't get better queens than I have been buying from breeders, I am going at the "queen job" myself. Ont., Canada.

I have never been satisfied with any race or strain of bees, because they all have more or less bad traits, and the Italians had too many to be anywhere near satisfactory, and this put me on the alert for something better.

One of the bad traits of the Italians is, that at times they will seemingly, and without a cause, get very furious or angry, and this made conditions very bad at my home apiary, located in town, where I was going to rear all my queens and most of my bees for an extensive bee-business. At these times they would sting passing objects along the near-by highway, and enter nearby houses and sting my neighbors sitting on their verandas, and sometimes enter their rooms and sting them; and at times they would storm the town for sweets, and give the druggist no little trouble. The situation was so bad that I regretted that I ever bought any Italian queens, and the town made a "kick," and the city authorities notified me that I would have to move my bees.

This, indeed, was discouraging to me, and the "air castles" which had made their appearance, relative to my future bee-business, had almost vanished, when the news reached me that a "gentle" variety of bees had been secured by our Government. I applied at once for foundation stock, which I obtained, and since I have installed it the bad situation has been entirely removed, and I have been able to rear more queens and bees than I could have reared with the Italian stock, and have been able to operate more apiaries and do a larger bee-business than I could ever have done with the yellow race of bees. I have tried both races faithfully, and I know what I am talking about when I express myself as I do relative to the Caucasian bees, and crosses with them.

It is perfectly natural for us all to love the "beautiful yellow bees," and I find that it greatly improves the Caucasian bees to give them a light dash of the "yellow" blood. They don't propolize so badly and build so many bur and brace combs, which is the greatest objection to the Caucasian stock.

Now, I don't advise doing away with our "yellow" blood entirely, but let us try a heavy dash of the Caucasian blood, if we are not satisfied with the yellow stock. No reports have come in that it does not make an improvement.

It might be said that I have not had much experience with Italian bees, and have never compared them thoroughly side by side. I have 9 apiaries of Italian bees located in a section of country where the wild bees in the forest for miles around are pure Italians (such conditions do not exist anywhere else in the United States, perhaps), and the Caucasian blood makes an improvement there.

Now about the poor queens you have been buying. If half of the queens you have been buying prove to be good ones, as you state they are, I don't think you should "kick." Considering the damage done to queens through the mail, and the present prevailing prices of queens, a queen-breeder can't rear choice queens to fill orders with, for 50, 65, or 75 cents each, or even at $1.00 each, and expect to live thereby.

Every bee-keeper who is familiar with the rearing of queens, knows that we get only a small percent of choice queens out of each batch of cells, and we can not pinch the heads off of the others and fill orders with the choice queens at the very low prices. No, the orders have to be filled with these queens, taking them as they come, and we can afford only now and then to pinch the head from a very inferior one. So you see, dear bee-keeper, how orders are filled for "cheap" queens. Then they have to be bumped and jarred in the mail, and perhaps remain for several days in a half-smothered condition in a mail-sack—all of which is very detrimental, or straining on the tender and delicate organs of the queen. So by the time she reaches you, you have a cheap queen for which you have paid a frivolous amount.

Allow me to relate an incident right here that will throw some light on the subject of rearing and buying queens. A bee-keeper friend of mine wrote me once that he wanted to start a small out-apiary, and he wanted 12 of the best queens I had or could rear for the foundation stock. I had been saving some very choice queens, and I wrote him that I could fill the orders, and made him a price on the queens. He replied that it was far more than he had been paying for queens, but he enclosed a check for the amount and wrote me to mail them, which I did, and they arrived in good condition, and he was successful in introducing them. I knew well that he could not judge good queens, although he had handled lots of them, but he wrote me that they were the finest queens he ever saw, and every now and then he would write and compliment me on those queens.

Some 4 or 5 years afterwards he wrote that the average was twice as much in that yard as in others, that he had made a great amount of increase from it, etc., and that he had had nearly failures at all the other yards, but he had every season secured a good crop of honey there, and wanted to buy enough of such queens to head all his colonies. I wrote him that I was under no obligation to sell queens now, and I had none to offer.

I don't know whether the Caucasian bees will winter well in the cellar or not, as I haven't had any reports.

No, I am not a commercial queen-breeder, and will never enter the field at the prevailing prices of queens. I can far better sustain life at honey-production. But it takes good stock and a lot of queen-rearing to make honey-production pay, and if every honey-producer will go at the "queen job," and buy only a few *good* queens as he goes along, and quit buying "cheap" ones, he will prosper more in the bee and honey business.

CONTRIBUTED ARTICLES~

Successful Wintering of Bees

BY ISAAC F. TILLINGHAST.

To carry the bees over winter successfully in our climate is one of the most serious problems which the bee-keeper has to solve, yet there are rarely more than two general causes for their loss. These are, first, lack of food, and, second, a surplus of moisture, both of which the alert bee-keeper will readily overcome.

It is really quite surprising how much cold weather a colony of bees will stand if kept dry, and, on the other hand, it requires not very severe freezing to prove fatal to them if water is allowed to work in, or if not packed so that the natural accumulation of moisture can escape by a kind of ventilation which at the same time will retain their bodily heat.

There is no doubt but those who have a properly constructed cellar, well drained and ventilated, and with a dry concrete floor, can winter their bees with greater safety and less expense, or less consumption of food, than can be done out-of-doors, but as most cellars are arranged they are far too moist, and the bees are usually better off in the open air.

In our climate we usually have days every month in winter when it is warm and pleasant enough for the bees to take a good flight, and my experience has shown that they keep in better health and suffer less from "spring dwindling" than where confined for 4 or 5 months as they frequently are in cellar wintering. So for a number of years past I have practised packing them for winter on the summer stands, an operation which I accomplish about as follows:

The oil-cloth which is kept on top of the frames when the surplus supers and sections are not on, is doubled over to the front, leaving the back half of the frames exposed. Then in the center of this uncovered space I invert a wooden butter-dish (such as your grocer gives you as a part of a pound of butter), extending it crosswise of the hive, to cover as many frames as possible; and then fit an empty super on the hive as tightly as possible so that no water can be driven in.

This makes a clustering-place for nearly a quart of bees, where they can retain their bodily heat, and keep warm and snug in the coldest weather, and also be enabled to reach their stores of honey below by passing over the tops of the frames. It also prevents the few bees from becoming detached from the main cluster and getting caught between two combs and perishing, as they otherwise sometimes do in sudden snaps of very severe weather.

Next, over this half of the hive, and over the inverted dish, I place a piece of old coarse carpet, or gunny-sack will answer, tucking it down carefully around the edges, and then fill the super with dry wheat or oats chaff.

Now carefully fit on the cover, and if there is any possibility of its leaking rain or snow water cover it with a piece of roofing, being sure that there is no place for water to work in, either.

Then raise the rear end of the whole hive at least 2 inches, letting it rest upon a couple of bricks or stones so that rain or melting snow will speedily run away from the entrance, and not work in so as to clog it or keep the bottom-board wet.

When thus fixed there is but one more source of loss to contend with. We are liable to have many warm, sunny days towards spring which will induce the bees to come out in large numbers while snow is still on the ground, on which many will alight, become chilled, and never return to the hive.

If the bee-keeper has empty supers to spare, it is a good plan to place one under each hive, which puts the bees so far from the entrance that they are not so quickly incited to emerge on account of a little sunshine, and gives air enough to prevent suffocation in case the entrance becomes stopped by ice or litter.

Otherwise it is well to keep the entrances well shaded, so that the bright sunshine will not induce them to sally forth too early for their safety.

If during a very bright and warm day they still will come out in large numbers, while snow is still on the ground, a sprinkling of straw or waste hay in front of the hives will save many, as they will prefer to alight on it rather than the snow, and then nearly all get back safely without becoming chilled.

If the hives are not in a naturally sheltered location, it is well to protect them from the winds by standing some corn-fodder or straw against the north and west sides to act as a wind-break.

But, however you may manage, if you use all your ingenuity to keep the bees dry, as well as warm, they will seldom suffer from cold.

Factoryville, Pa.

Foul Brood and the Inspectors

BY E. M. GIBSON.

It has come to the breaking point with me, and I am going to write some truths about foul brood, and if some one's feelings are hurt, I hope others may be benefited.

There is not the slimsiest thread of consistency in keeping foul brood year after year to menace those who keep their apiaries clean. One would not be allowed to keep any other infectious disease in a neighborhood—why foul brood? We hear of bee-keepers whose bees get the disease, but that is the last we hear about it—they get rid of it without an inspector having to come and *make* them do so. Nearly every issue of our bee-papers has one or more articles about foul brood and its cure, and I believe a great majority of them ought never to have been published. If I were inspector I would be lenient with the beginner, but the old transgressor would *have to* "get busy" and clean up.

In the first place, I would see to it that every owner of bees received a circular explaining the McEvoy treatment, and giving explicit instructions about being careful in the manipulation of the same. The McEvoy treatment will *cure* foul brood, either American or European. When I refer to the McEvoy treatment it is to be understood that I mean with starters or with whole sheets of foundation. I used full sheets, and if I had used only that treatment instead of trying everything else I had read about, I would have gotten rid of it one year sooner than I did. If there is a sure cure for foul brood, why not confine one's self to that process?

There need be no trouble about diagnosing the disease; the rawest beginner would not be misled, for if his eyesight failed, and his olfactory nerve was in tune, he could make no mistake.

Some districts of the inspectors are so large that it is impossible for them to do all the work, and the law in this State does not require them to do so. The owners of bees should be instructed as to the method of cure, and then it is the duty of the inspector to see that instructions are followed.

Are some of our inspectors too lenient with old offenders? It is not for me to judge, but I have read in the bee-papers that foul brood is on the increase in some of their districts. There is such a thing as being over-zealous to do justice to a few that injustice may be done to others.

The year 1904 was the poorest season I have ever known. I fed my bees from May, 1904, to May, 1905. Honey being the natural food for bees, and never having heard of foul brood in this section, I bought honey to feed them. I afterwards learned that the honey I had fed was taken from an apiary that had foul brood, and had been broken up, the honey extracted and sold to the merchant from whom I bought. Imagine the condition the bees were in by 1905! Several told me it was impossible ever to cure such a mess, but I produced 17 tons of honey that year, and nearly all the bees that I put on foundation that year were cured, and the next year I cleaned it out.

The first year I tried to save the brood by piling up hives filled with brood and a few bees to protect it, but I think this a great mistake. It seems like a great sacrifice to cut out those solid sheets of hatching brood with but a few cells showing any disease, but when one stops to consider that by keeping them other colonies may be infected, and the same process gone over again, it seems to me to be penny-wise and pound-foolish. Desperate cases need desperate remedies, and the sooner we get rid of every vestige of the foul stuff the sooner will we be rid of the disease. One can not be too careful while doing the work.

I was told many times that the disease would show up again as bad as ever in a year or two, and I have refrained from writing, thinking I might laugh too soon; but 6 years is long enough, and I am sure if the disease reappears it will be from outside causes.

Another reason for not writing on this subject sooner is, that I thought possibly the disease might be more easily gotten rid of in this dry and mild climate, or perhaps it might be in a milder form, but I know of those whose bees contracted the disease the same year that mine did, and from the same cause, and their bees have it today as bad as ever.

If each one did his duty, foul brood would be wiped out, and we would hear but little about it. It is unreasonable to suppose every one will try, and this is the time for the inspector to do *his* duty; he, being armed with authority, should see to it that all delinquents did their part. It seems to me it's up to the inspectors, whether we keep on threshing old straw through the medium of the bee-papers, or whether they get at it and clean the country up.

GETTING QUEENS FERTILIZED.

On page 168 (June issue) J. E. Crane is quoted as saying:

> "I made a large number of new swarms with laying queens, but I found it very difficult to get those young queens fertilized."

If he is quoted correctly, I do not know what he means. I suppose he has reference to my apiary, a picture of which was shown in Gleanings in Bee Culture, and I wanted to call his attention to what J. F. Munday says on the same page, in the column to the left, "about "Spreading Hives in the Center of the Apiary." I have an apiary on level ground, and have the same trouble as Mr. Crane and Mr. Munday, and I am at a loss to know what to do. There are too many bees in the apiary to scatter them as Mr. Munday does, for they would cover too much ground to get over when extracting, and it would be a big expense to move the honey-house, for the cellar under it is walled and cemented. Can some one help us out?

I do not have a particle of trouble with the other two apiaries which set on slightly sloping ground. The bees do not drift, and the queens get fertilized as readily as in nuclei, which are some distance apart.

Jamul, Calif.

Non-Sitters vs. Non-Swarmers

BY C. P. DADANT.

I believe that the editorial with this title in the September number of the American Bee Journal, in which the editor criticises my criticism, is intended to draw me out with a fuller explanation. The subject of this discussion, which the reader may not recall, is the possibility of breeding non-swarming bees as non-sitting chickens have been bred.

I can see a very positive difference between the two as to results. I tried to explain it by saying that a non-sitting hen does not suffer any inconvenience, while a non-swarming colony might suffer from overcrowding. The editor asks whether a hen, which is put into a cold-water bath, or tied to a post, does not suffer inconvenience. Certainly; but that is not a non-sitting hen; on the contrary—and the inconvenience we put her to comes from our desire to stop her sitting, so she may resume laying.

Races of chickens in which the desire to sit has been greatly eliminated, have been secured by constantly selecting to breed from such birds as produced the largest number of eggs between sittings. For this purpose, either artificial incubators or more regular sitting races had to be employed in the hatching of the eggs. Thus races have been propagated in which the propensity to lay is out of proportion with their sitting. No inconvenience is created to those hens by their abnormally large laying. They produce more eggs than they would if left to natural conditions—more than they could possibly hatch, four times over, perhaps—when came their time to sit.

This is artificial evolution, created by man's desire to consume eggs. But if we were to abstain from using other sitters or artificial incubators, and left the chickens to their own resources, the loss of eggs resulting from the inability of the hen to cover all of them when she did sit, and from the age of some of the eggs which would be no longer fresh, would soon breed out this artificially-bred propensity. Most of our domestic chickens, even the sitting races, lay more eggs before sitting than they can well cover, and our rural housekeepers know how much waste there is usually in a stray hatch of chicks.

But even in chickens, in order to secure non-sittters to the greatest possible extent, it is necessary, according to authorities, to keep them in favorable condition. In a little work, entitled "The Business Hen," after describing the non-sitting strains—Houdans, Black Spanish, Minorcas, Leghorns—the author warns us against the danger of over-feeding or under-feeding, both of which have influence upon the results. As hens that never sit are as yet unknown, the only point secured is a very protracted laying previous to sitting.

With our bees we reduce the desire to swarm, of course, when we give them ample room both to breed and to store honey. We also keep the swarming down to the lowest limit by having young queens, for much of the queen-cell rearing at swarming-time comes from a desire on the part of the bees to supersede their queen. If the queen is still vigorous and the colony strong, swarming results. We will secure non-swarming bees by breeding as much as possible from such races as are slow in rearing queen-cells. Will this be possible without at the same time securing colonies in which the danger of extinction is great? Ample room in both lower and upper story is certainly the main desideratum. But although we have practised here the giving of a supply of ample room in empty combs for years, and have secured perhaps the minimum of swarming, I have never hinted or thought that we had bred out the swarming instinct in our bees, for just as often as we neglect to furnish both breeding and storing-room in time, at the beginning of the harvest, we are sure to have natural swarms as positively as do the producers of comb honey in small hives.

But let us suppose for a minute that we had succeeded in producing a non-swarming race of bees. Unless those bees were wanting in prolificness and honey-gathering qualities (in which case we should discard them), they would be put to great inconvenience at harvest time, if they were at all neglected, for their ordinary relief for lack of room or ventilation would be absent. There is not much danger of this. The swarming instinct has been bred in them by evolution, so that they may simultaneously propagate their kind and relieve the crowded condition of their home, and this instinct—the first symptom of which is the rearing of young queens—will be difficult to eradicate.

However, we may greatly help to lessen swarming by fulfilling a few requirements within our reach as follows:

1. Have ample breeding room for the queen in the lower story.
2. Give sufficient room in the supers to keep the bees busy.
3. Have the hive well shaded from the direct rays of the sun.
4. Give ample space for ventilation, so the bees may, without too great effort, send a current of air through the

hive. When room, shade and ventilation are given there is no clustering out.

5. Remove drone-comb as much as possible in early spring. Numerous drones annoy the bees and make the home uncomfortable in hot weather. The comb thus removed must be replaced by worker-comb, not trusting the bees in the rebuilding, as they might build the same kind.

6. Have no old queens—none over 2 years old—unless they are still very prolific.

Queen-cell removing is practised with some success, but the average bee-keeper can not follow this method, as it requires almost daily attention during the busiest season.

With the fulfilling of these conditions by artificial means, for generations, there is probably a slight opening for a decrease of the swarming instinct, since some races are known to have greater swarming impulse than others.

Hamilton, Ill.

Keeping Honey—Breeding Bees

BY DR. A. F. BONNEY.

Every once in a while some bee-keeper is delivered of an idea which should be classed as a "Bright Thought," and perpetuated. "Keep More Bees" was one of them; and passing the others I know of I wish to call attention to what Mr. C. P. Dadant writes in the American Bee Journal for September, 1911, page 271:

> "But grapes and other fruit are perishable goods. When they are once picked, they must be sold. Not so with honey. You may store away your honey and sell it at your leisure."

Any one looking over the bee-papers will often see bee-keepers urged to sell their honey before the Holidays, the reason given being that the demand for honey falls off or ceases after that date. I early became imbued with that idea, but after I put a furnace into the house, which enables me to keep bulk, comb, and extracted honey, without its granulating—or largely, at any rate—I found that there was a steady demand for honey all the time. Believing what I had read in the books, one season I put myself out to sell a thousand pounds of No. 1 section honey, on which, had I kept it, I could have made a couple of cents a pound more. A cent a pound is $20 a ton. Hum! Now I hold my honey; and if I do not sell it in December I do in March.

Breeding for Improved Bees.

In the American Naturalist for August, page 471, is an article by Dr. J. Arthur Harris, of the Station for Experimental Evolution, Cold Spring Harbor, N. Y., entitled, "A Coefficient of Individual Prepotency for Students of Heredity," which every bee-keeper who aspires to improve bees by selection and breeding should read. One passage I noted, making an interrogation mark:

> "The necessity of dealing with each generation independently is also imposed by the possibility of a differentiation between any two generations due to purely environmental (meteorological or edaphic) influences. Taken as a whole, the entire offspring generation may be superior or inferior to the parental generation; and this because of no hereditary influence at all, for all families may be raised or lowered proportionately."

There is so much that is good in this article that I am tempted to quote further, but will add but this:

> "However well one may know the somatic characters of an individual, or however intimate his knowledge of its ancestry, the ultimate test of its value as a starting point for a new race is the quality of its offspring. *The proof of a parent is its produce* has been recognized as valid by various breeders since the time of Louis Vilmorin......"

Hibernation.

It may interest the readers to see this compilation: "Hibernation," a term used to define the condition certain warm-blooded animals assume to pass the winter. The definition is: "To pass the winter in a close place." "Hibernation is a peculiar state of torpor." "Hibernation is not produced simply by cold."

Encyclopedia Britanica says: "It is an error to suppose that hibernating animals can stand any degree of cold." Hibernation of warm-blooded in *warm* climates is called "Aestination." "An analogous condition to hibernation is diurnation, as the day-sleep of bats." "In cold-blooded animals, as the Amphibia and Reptilea, respiration and digestion are entirely suspended during hibernation."

I believe hibernation in the cold-blooded animals and insects is caused entirely by cold, but can not find corroborative literature.

Glass vs. Tin Honey-Packages.

There are always two sides to a question, and sometimes more. I believe with Mr. Grenier, that there is nothing better than a glass jar for honey, *but*, I restrict it to my local retail trade. When, also, any one wants more than 3 pounds (a quart Mason jar), I sell in a tin pail, and use only the 10-pound.

Queen-Rearing in an Isolated Region.

I am just back from a trip to South Dakota, and if Mr. Gately or any one else wants to try out queen-rearing where there will be no "wild" bees or other kinds to bother, he can find such a place in either of the Dakotas, where there are thousands of acres, if not square miles, where a bee has never been known.

While I write, Mr. William Newell, State Entomologist of Texas, is, I am told, working with bees under similar, or identical, conditions.

I might add, just for a joke, that I have an average of 60 pounds to the hive from some "scrub" bees, when others with "improved" bees had to feed.

To extract a Bright Thought, I want to ask Mr. Gately: In the 50 years we have been importing bees, Italians, what have we gained more than Italian bees? Honestly, now, as between students, is it not, as yet, only intelligent guesswork, this rearing queens? Note again what Dr. Harris says, in the American Naturalist, page 473, Vol. XLV: "*The proof of the parent is its produce.*"

I think if Mr. Gately and other investigators will study Mendelism closely they will not be so swift to assert that we have improved the bee. That we have isolated colonies which yield largely, I admit—I have had several such; but what of the offspring?

I assert that only the Diety can tell what the result will be from breeding a pure Italian queen to a pure Italian drone, *in regard to honey stored*, and that is all the commercial bee-keeper cares about. We may get color, size, and all that; the rest is all conjecture, and we have to wait a year or two to find out.

Buck Grove, Iowa.

Working for Purity of Stock in Bees

BY G. M. DOOLITTLE.

I know it is a question in the minds of some of our best bee-keepers whether purity of stock is any great advantage, quite a few claiming that a mixed race is as good for the production of either comb or extracted honey as are bees in their purity. Then there are others fully as certain that if we would make any improvement in our bees in the future years, said improvement must come by taking a certain race which shows the best characteristics and breed for the *best*, till we have something much better than the original. And to my mind these latter have the advantage. Although I fully believe that a first cross between two good races of bees gives a great degree of energy, still, if we persist in such crossing or working from the hybrids which are thus obtained, the chances are that our bees will revert back toward the inferior faster than toward the goal we are seeking after. Therefore, I have tried building up a superior strain of Italian bees looking especially toward the comb-honey production side, as (after trying all the bees imported into this country, as well as the common German or brown or black bee, which was in the United States at my beginning in this world) I find the Italian bee the best of any for the locality of central New York, which is where my lot was cast.

But the breeding of any certain race of bees is not nearly so easy as to try for a fixed standard of our other domestic animals, in that we have no positive control of the male progeny from certain mothers which we may have selected. As all mating of bees is done in the air, far away from the sight or influence of man, the question which confronts every bee-keeper who is desirous of keeping pure stock, or the one who wishes to improve his stock along any line by a careful selection of the best is, "How far apart from other bees must they be kept in order not to have the young queens from his selected mother mate with drones from other colonies of bees?" Then the singular thing is, that on this question the "doctors" in apiculture very materially disagree.

Some years ago, one of our noted queen-breeders wrote me in these words:

> "There are some who entertain the idea that a race of bees can not be kept pure unless it is isolated several miles from all other races. I have tested this matter

pretty carefully during the past 20 years, and have found that half a mile is as good as a much greater distance."

He then went on to say at length regarding the time the queen was gone from her hive on her wedding-trip, from which he was sure he had reached the right conclusion. He gave this time as 5 minutes, and from this he reasoned that it would be impossible for a queen to fly more than that far and return, or more than a mile during such a short space of time, say nothing of the time of mating. He claimed queens were very slow of flight; that drones would fly a mile or more, but queens would not. But when I wrote asking him what was to hinder those drones from being that mile from home when the queen reached the end of her half mile, he was silent regarding the matter.

Now, if the drones go a mile from home, and the queen a half mile, very many mismatings could happen three times the distance he gave, or 1½ miles away from where our choice queens and drones were reared, which made his whole claim only guesswork. And this was from a man who reared hundreds and thousands or queens, and sent them all over the country as pure.

And we have in our ranks today those who believe that 1½ to 2 miles is all the distance needed to insure the pure mating of stock.

I do not wonder, sometimes, that these come to such a belief, for it is far easier to believe something we wish to believe than it is something that requires lots of labor and sacrifice to meet something we will have to did we dig deep enough to prove the logical conclusion of the whole matter.

Now we will take the 2-mile belief, which is the greatest distance many will allow. At that distance we have an area of territory 4 miles in diameter, or 2 miles in every direction from our selected queens and drones. To the one who never tried making sure that there were no drones within a distance of 4 miles in diameter, or 2 miles in every direction from his apiary; and also the making sure that there were no undesirable drones among his own bees, this might seem a comparatively easy undertaking; but the one who has tried *knows* that there are very few problems in apiculture that can equal such a proposition. And especially is this true where there are tracts of woodland having large and aged trees in which there are cavities in abundance suitable for a home for all absconding swarms. It is bad enough for the one living in a an open country, for even here bees frequently go into the walls of old buildings, and clefts in the rocks. But where there is nothing of this kind in the way, we have all the domestic bees within this area to contend with.

And this contention is often something quite disagreeable, for, try the best we can, it is not every one who keeps bees that is willing to allow us to make a change of the whole of the queens in his apiary, even if we will furnish and introduce one of our best improved queens to each of his colonies without trouble or cost to him. And if there is one colony of undesirable stock within this area, that colony, if unmolested, is quite likely to rear more drones than the practical apiarist will allow in a score of his colonies, while with an obstinate person who has from 20 to 50 colonies, our task is well-nigh helpless.

Then, should we find all agreeable to our changing their queens from the common stock to our best improved Italians, we have no choice of individual drones. What would the average breeder of our domestic animals think of the proposition of improving his horses, cattle, sheep, swine. or poultry. without the privilege of knowing any of the characteristics of the male from which the offspring of his best selected mother was to come, knowing nothing only that it would be from the same race or strain as the mother?

Without going further into this matter, it will be seen how the apiarist who is alive to the improvement of his stock is handicapped. And then, when this live apiarist has dug to the very bottom of affairs, he is compelled to believe that his selected queens will often mate with drones 5 miles away, so that his area must be 10 miles in diameter instead of 4, this handicapped part rises up almost as a mountain before him. Therefore, I have done the best I could reasonably to procure all Italian queens from my best stock within the last-named distance from my apiary, and, later, when I was desirous of arriving to the nearest perfection possible, I have each year followed a plan looking toward this greater perfection. Near the close of the main honey-flow, at which time the very last eggs for drones will be laid by my choicest drone-mothers, I have massed this drone-brood in a very strong 2 and 3 story queenless colony, the third story generally being almost entirely of honey, so that these drones need not be scrimped for the food necessary to their full development, and frequent flights later on when all other drones are driven out and killed at the end of the drone season.

At the time the other drones are being driven out, queen-cells are started from my best queen-mother, the colonies rearing them are liberally fed and shaken up so as to produce the best specimens possible, when, at about the time these young queens will fly to mate, the colony having the best drones (which have been preserved from death while the others were being slaughtered, by the means already given) is opened on some cloudy, cool day, when there is no fear from robber-bees, and all the combs carefully looked over, picking off and killing every inferior drone as to size, imperfections, color, or in any way deformed, so that we have nothing but hand-picked stock left along the drone-line for our queens to mate. This is the best thing I know of so far in sight; but I have been experimenting, and hoping that something better might soon appear.

Borodino, N. Y.

Directions for Hunting Wild Bees

BY HARRY A. PACKARD.

Honey-gathering from the nests of wild bees is a lucrative occupation, and though there are modern ways, the old methods employed by the veteran bee-hunter seem to be about as successful as any in the long run.

After making a small box with a little trap door to it, I put in a small piece of honey-comb, then fill the cells with sweetened water—sugar diluted with water, very thick.

This prepared, I station myself in some favorable spot in the woods and try to attract a bee to the feast of sugar. Unless caught by a bird, or prevented by some accident, the bee will invariably return for more sweet just as quickly as the first load is deposited.

In a few minutes I have quite a swarm frequenting the little box, gathering the sweet and flying in a pretty straight line to their hive.

As soon as I get a line on the bees I can get pretty accurate information of their home hive. After that, if one is familiar with the woods—and no one hunts bees unless he is versed in woodcraft—the work is easy.

It is well to begin operation early in the morning, within a mile or more of a mountain slope, where there are likely to be hollow trees.

It is an easy matter to gather a few bees from the wild flowers and drop them into a box. The comb serves simply as something for the bees to stand on to prevent their wings from being smeared, as then they couldn't fly. Then when you are all ready to begin your bee-hunting, let one of the bees enter the apartment where the sugar and water is. The bee will buzz around for a while, but put your hat over the glass so as to darken the box, and the bee is quite sure to settle down and begin feeding.

Then put the box on a stake a few feet higher, built for the purpose; slip off the cover, and stand back a few paces. In a few moments the bee will slowly rise, make a few spiral flights to get the bearings, then start on a straight line for the hive.

If the bee goes towards civilization it is usually safe to assume that it is a domestic bee, and it is best to try another. When one starts toward the mountain it is equally sure to be a wild bee. If the swarm is not more than two miles away, it will return in the course of 10 or 15 minutes, and others will usually come with it.

As soon as there is a well-established line running, it is usually well to cross the line by shutting the box and keeping a few bees captive, and taking them a quarter of a mile to another spot, and there set up again.

In a little while there will be another line at the work, and where the two lines intersect the "hive" may be found.

In Praise of the Honey-Bee

BY D. M. MACDONALD.

As a home hobby or pastime no other pleasurable or health-giving can compare with apiculture, while it has the further important recommendation that it is a paying one, especially for those leading a sedentary life. No better can be found, as the time devoted to it is spent in the open air with Nature, and all her works for a study.

The bees lend a new meaning to the flowers, and we take additional interest in their beauty and grace when we look at them, accompanied by the murmur that comes to us on the air heavily laden with the perfume of honey; for the bees are fed on Nature's purest and richest offering—the soul of the flowers.

We are called by this delightful pastime to the full enjoyment of June's floral offering, to the pleasures of summer's sweetest and sunniest hours, and to the charms of blue skies, green grass, and the softest and balmiest weather. Only when Nature smiles her fairest, when the sun shines its brightest, and mankind as a whole delight to spend their time beneath the open vault of heaven, do bees call for the special care of their keepers. At such times do we not realize how well worth it is to live and go on enjoying the pleasures and delights our pleasant calling insures us? Wealth through a bee-hive should be a secondary consideration to those who place health ahead of any other consideration. But here is a calling capable of bestowing both health and wealth on all who practise this pleasing pastime — health in a double sense, for honey, too, is health.

A Fascinating Study.

In the order Hymenoptera we find many insects which appear to all lovers of Nature. We can not but admire the structure and uses of many of their wonderful organs; their ways, habits and customs will well repay close observation; their various modes of providing a living, and the admirable means they adopt to secure ends are intensely interesting. The study of no other insect, however, is so full of fascination and so fertile in the marvellous as that of the honey-bee. Even the most superficial observer must admire the remarkable development of instructive powers displayed by the denizens of a bee-hive, and all lovers of home and kindred must appreciate their social qualities. Wise, with a prescience excelling that of all other insects, the small worker-bee is gifted with a brain, quick, subtle and active, and a foresight so far reaching and provident as to make us at times claim for her mental powers of a high order.

The bee is essentially a creature of the crowd, and the bonds of friendship and kinship are the very essence of her being. Without the close bonds of union a colony of bees would soon cease to exist, because the propagation and upholding of the race require close combination and unity of effort. Therefore, we find the domestic virtues strong in the hive, and the teeming thousands act in the closest consideration. As our great poet Shakespeare says, "They teach the art of order to a peopled kingdom." In each of these commonwealths each will for the good of the whole is bent, and every bee thinks of self in a secondary way, only sinking her own individuality for the good of the community as a whole.

"Mine and Thine."

While every simple unit of the community has a free range over the whole interior, all the bees of other hives are rigidly excluded. When the guards at the entrance, by the aid of their mysterious antennæ, spy strangers, and find them attempting to enter where they have no right to be, then woe betide these would-be intruders! For all such there might be written over the entrance of every bee-hive Dante's inscription over another place—"Abandon hope all ye who enter here!" And yet, with a wisdom above what is written, let that same strange bee but come with a precious load of nectar, and thereby pay toll at the strange hive, the guards allow it to pass, and the other workers receive it in a spirit of adoption, as if it were a true daughter of the hive. Let, too, young bees quietly alight on the flight-board and seek entrance there—it is not denied them. The prescient workers may reason it out that here is no enemy, but a friend —one who ere many days have passed will become a valuable asset, able to take its place amid the industrious band of toilers on whose efforts will depend the garnering of the honey and storing the fruits of the fields against the time when winter's storms will make them all close prisoners to their hives.

This admirable arrangement for preserving the balance of power in a collection of hives, shows us how well and wisely the Great Preserver of all has acted in conferring this marvellous instinct on the bees of each community, where each home is preserved by the peculiar colony odor.

No One Touches Me With Impunity!

Contrary to common belief, bees are really quiet and gentle creatures if left unmolested. Man, at times, suffers from the wrath of the bee, and becomes its victim, but only when he is the assailant, or when he incautiously departs from certain well-known rules, which, acted on judiciously, ought to safeguard him from any serious consequences. Nature has wisely implanted a sting in the bee, and when called upon it can use this weapon most effectually in defending its hearth and home. Without such a protection the race would not exist, for the bees would become extinct, because every bird, beast, and insect of superior strength would prey upon it and rob it of its enticing sweets.

Now, guarded as they and their delicious treasures are by the venomous stings of several thousands of Amazonian warriors, all willing to sacrifice themselves on the altar of duty in defence of hearth and home with its hard won stores, other insects of even superior size and strength show a due regard to rights of possession, and leave them unmolested. "*Nemo me impune lacessit*" might be the bees' motto, for each republican stronghold is an impregnable fortress, and no enemy can expect to intrude on the sacred precincts, meddle with their rich stores, or disarrange their internal organization with impunity. Man, when he has become a bee-keeper, is the first to see and admire the beauty and utility of this admirable arrangement which perfects and completes the order and harmony of the hive.

The Busy Bee.

The industry of the bee is one of its finest traits. What more delightful sight can even be imagined than a strong colony of bees working on a full late flow such as the heather or the basswood, on some bright day of glorious sunshine. What hurry and bustle is displayed by both the out-going and incoming workers, yet by some wonderful instinct there is no congestion. How wisely and well they, as well as the guards, arrange their exit and entrance so as to avoid all semblance of crush or confusion, and how unerringly the foragers, heavily laden with the rich and luscious stores, make for the right spot in the supers or brood-frames with their loads of honey, pollen or propolis, depositing each just where the spirit of the hive teaches them to best.

Looking on this internal organization of a populous colony, one realizes the full force of the proverb, "As busy as a bee." No other creature displays such an overmastering zeal for labor, and no other can carry it on from early morning until late evening with such unflagging energy and perseverance. Labor, indeed, seems to be the bee's sole delight, and at no other time does it appear to revel in a sea of happiness more than when it is plying its industry with the utmost tension. It desists only when weather frowns, when nectar ceases to flow, or when night forbids more work. Ceaseless toil, untiring energy, is a characteristic of those hives of industry, and their labor seems incessant as they toil by night as by day, carrying on the thousand-and-one duties necessitated by the calls of brood-rearing, honey-maturing, depositing nectar, and sealing up the store-houses.

A Perfect Government.

The government of our own large cities is a complex and intricate combination of wheels within wheels, and it takes the best energies and the most fertile brains of high-paid officials to manage each department. In this Commonwealth of Bees the government is far more simple, yet in its results far more perfect. Each laborer is as good as her neighbor. Of the teeming thousands none works for herself alone, because each will for the good of the whole is bent, and every bee, sinking individual tastes and inclinations, sets the good of the community always before its mind's eye. This republican stronghold consists of thousands, but they labor as if one single mind pervaded the whole.

The vice of selfishness is unknown, and no jealousies exist, no self-interests mar well-laid plans, but all is harmony, peace, concord. In a hundred different ways we have associated effort in its best form and yielding the most fruitful results. One bee setting up its own will, its own ambitions, its own desires, or trying to lead a life of grand independence, would quickly find how futile its efforts would become. The bee can only exist as one of a crowd, and every bee in that crowd may find itself as important to the well-being of the community as any other. Hence, there is a spirit of content, peace and concord in every member. By combination alone they can prevail. Great deeds may be performed by association. Segregation means chaos and the very negation of successful results. Wisely bending their wills to the inevitable, they *combine*, and the combination produces the ideal in government.

Banffs, Scotland.

Pearce Method of Bee-Keeping

This is an illustrated pamphlet 6x8⅓ inches, "explaining the keeping of bees successfully in upper rooms, house attics or lofts, whereby any one either in city or country is enabled with only a small expenditure of labor to get a good supply of honey without coming in contact with the bees, and without having the bees swarm out and leave, or being troubled from stings, as you work on one side of the wall and the bees on the other. This method also tells the commercial bee-keeper how he can divide his bees when he wishes to, instead of waiting and watching for them to swarm. It can all be done on the same day, or days if more than one apiary, as the time required for this operation is merely nominal, no swarms issue and go away. These methods are fully explained in this book, and how to care for the bees on the Pearce plan."

We mail this pamphlet for 50 cents, or club it with the American Bee Journal one year—both for $1.10. Send all orders to the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.

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"Bee-Keeping by 20th Century Methods; or J. E. Hand's Method of Controlling Swarms," is the title of a new booklet just issued from the press of Gleanings in Bee Culture. While it is written particularly to describe Mr. Hand's methods of controlling swarms by means of his new patented bottom-board, the booklet contains a great deal of other valuable matter, among which is the following: The hive to adopt; re-queening; American foul brood; wintering bees; out-apiaries; feeding and feeders; section honey; pure comb honey; conveniences in the apiary; producing a fancy article of extracted honey; swarm prevention by re-queening; increasing colonies, etc. The price of this booklet is 50 cents postpaid, but we club it with the American Bee Journal for a year—both for $1.30. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

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"Southern Bee-Culture" is the name of a booklet written by J. J. Wilder, perhaps the most extensive bee-keeper and honey-producer in the whole State of Georgia. It is a real hand-book of Southern bee-keeping, with methods so simply described that they are easy to carry out. Every bee-keeper, especially in the South, should have a copy of Mr. Wilder's booklet. He conducts apiaries by the dozen, and produces many tons of honey every season. He tells in careful detail just how he does it. The price of this booklet is 50 cents, or we now club it with the American Bee Journal for a year—both for $1.30. Send all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Feeding Bees for Winter

A few days ago I purchased a Miller feeder, placed it in an empty hive-body on top of a colony of bees I wanted to feed, and put the hive-cover on it all right. For a little while I saw robber-bees entering the hive. I finally was compelled to remove the feeder. This is my first attempt to feed bees. I see by the bee-papers that September is the time to feed. My bees have done very poorly this year, and I fear they will not live through the winter unless they are fed. How can I feed them and keep the bees from robbing? NEW JERSEY.

ANSWER.—I don't know of any way of feeding that is safer from robber-bees than by the use of the Miller feeder. I have fed in that way hundreds of times without any robbing, and I think I never heard of a case of the kind before. I wish I had fuller particulars. It may be that the colony was weak, and that in some way robbing was started just as it would be without any feeder in the case. The only thing I think to suggest is to feed in the evening, and partly close the entrance.

Bee-Bread—Comb vs. Extracted Honey—Eyes of Bees

1. Can bees live without bee-bread in the winter-time?

2. Can they live on bee-bread a week or two without honey?

3. Can the golden Italian bees gather honey from the red clover, or just pollen?

4. Does the queen lay drone and worker eggs in the old queen-cells?

5. Do bees gather nectar from corn-flowers?

6. How many pounds of honey does it take to make one pound of wax?

7. Comb honey sells at 12½ cents per one-pound box here, and extracted honey at 10 cents. Which is the more profitable?

8. Mr. C. P. Dadant said that bees have 5 eyes—3 small ones to see within the hive in the dark, and 2 eyes to see in the open air. What do you think of it? MISSOURI.

ANSWERS.—1. Yes, but they must have it in the spring before they can rear any brood.

2. I think not.

3. If they work on red clover at all, they probably get honey. Sometimes they work on it, and so do blacks, but generally they do not.

4. No.

5. Yes, if by corn-flower you mean the flower Centaurea Cyanus. If you mean the tassels of Indian corn, I think they get only pollen.

6. I don't know. For a long time it was counted 20 pounds. Then some figured it out 7 pounds or less. Possibly 10 or 12 pounds may not be far out of the way.

7. Extracted.

8. That's what the authorities tell us. But it must be remembered that the 2 eyes are compound eyes, and instead of saying that the worker has altogether 5 eyes, it might be nearer the truth to say it has from 3500 to 5000 eyes.

Perhaps Yellow Jackets—Wintering Bees—Stimulative Feeding

1. I have noticed a number of bees having bright yellow and black stripes hovering around my hives and evidently trying to rob. Can you advise what kind they are, and their habits?

2. In wintering outside, if the honey-board is left on over the brood-frames, and burlap laid on top of the honey-board, and then an empty super filled with leaves placed above, and then the cover, do you not think it would be better than merely placing the top cover directly on the hive, it being understood that the entire hive is to be protected by outside packing and the case in both arrangements?

3. Do you not find the yellow Italians more vicious than those of a darker color?

4. I can occasionally obtain sweepings from a sugar-warehouse, particularly moist yellow and brown sugar. What, in your opinion, is the best method of feeding this sugar to stimulate bees? How would it do to spread in shallow pans in the spring before supers are on? MISSOURI.

ANSWERS.—1. They may be yellow wasps, which look like bees, but are more slender. They are commonly called yellow jackets. I don't know much about their habits, only they are social wasps of the genus *Vesta*, and I think they have their nests quite commonly in old, rotten stumps. They may be often seen about sweets and decaying fruits.

2. Yes, the top of the hive is the part that should be kept warmer than the rest.

3. They vary; some are vicious, and some gentle.

4. If there is a time when the weather is good for the bees to fly, and there is no pasturage for them, you will imitate the natural flow by giving them the feed very thin, even as thin as 9 parts water to 1 of sugar. Feeding in pans is all right, and you will do well to throw in cork chips as a float. Your grocer throws away these chips that come as packing in kegs of grapes in cold weather.

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Introducing and Rearing Queens—Keeping Italians Pure, Etc.

1. Is it necessary when you cage a queen for a few days in a hive, or introduce her from a baby nucleus to a colony, to put candy in the cage? Will the bees not feed the queen through the screen?

2. When I have a super with shallow frames, bees, brood, and queen reared in it, and I want to supersede the old queen, could I kill her two days before inserting a new queen? and instead of caging the queen, could I take simply the super above mentioned and set it on top of the queenless hive, and in a few days take the super off and use it somewhere else? Will the bees accept the queen that way, or will they kill her? This morning I had a similar experience. I had too many bees, so I thought I would unite them. I killed a young queen in one of the newly-made colonies, and set this queenless hive on top of another hive having a young queen; but, alas, after half an hour I looked in the hive and found the queen balled on the bottom of the double-deck hive. I caged her at once, but I had no candy to feed her, so after a while I thought I would try the flour-sprinkling that I had read about, and today (after 4 days) I looked and the queen was gone—I could not find her, so the two hives are now queenless. I tried the flour method on 2 other colonies, where I shook the bees from the other hive in front, and it worked all right. Here I found the queen and one dead on the hive-bottom, so I suppose the queen from the first hive must have gotten in the wrong hive.

3. I would like to rear my own queens in the future on your plan that I read recently—in supers with shallow frames. I have a bee-house where I keep separate 4 double-deck hives on the Pearce plan. These are my best stock for breeding. Next spring I would put on top of this hive 3 supers with shallow extracting frames, filled with medium-brood comb foundation. About May 1st I would put the supers on and feed for brood-rearing. In 3 weeks (May 22) I would put a queen-excluder between the supers and hive-bodies, and thus induce the bees to build queen-cells in the shallow supers. Will they build queen-cells in that way?

After 8 days I expect to have a nice lot of queen-cells to select from, then I would take the shallow supers away; have on hand a certain number of shallow supers prepared with bottoms and covers, close the entrance of these supers bee tight with green grass, put in each of the so prepared supers 3 shallow frames with adhering bees that I had taken from a hive a little while before, and see that there is at least one nice capped queen-cell to each 3 shallow frames, and add one frame with a full sheet of comb foundation, so that every nucleus super thus made would contain one nice queen-cell, 3 shallow frames with brood, honey, and bees, and one frame with comb foundation. Then I would put the covers on the supers so prepared, and remove them somewhere in the woods to hatch and mate the queens. Will that work? After I had taken the supers from the breeding hives, I would take all the 4 double hives away from their stand in the bee-house, put in their place a new empty hive with one-inch starters only, and put 2 supers filled with foundation baits and starters to every empty hive, and shake all the double hives to every old stand, and put more supers on whenever necessary; but I don't know what to do with the beeless brood, as I work for comb honey and have no extractor. I don't care to put this brood on some weak colony, that would reduce my comb-honey supply. Could I put them on top of the supers on every hive with bee-escape board, and above the bee-escape put the beeless brood on the 2 hives until they all emerge, in 21 days? Will they hatch without bees, or would it be better to destroy the brood and make the combs into wax, as I have no use for full combs? Dr. Phillips and Walter S. Pouder say that shaking swarms on full combs or full sheets of foundation is a failure; but that inch starters are the right thing to use.

4. After I have emptied the old brood-combs I could cut them off so as to leave only one-inch starter or cells on the frames for next year. Will that be all right, or do you know any better plan of disposing of those beeless combs of brood, when one doesn't care for extracted honey?

5. Last spring I bought 15 select tested golden Italian queens, and I lost 3 when introducing them They were expensive queens, but I wanted pure-bred bees. But I see now, to my sorrow, that all the surrounding bees are black drones. How can I keep my queens pure in such a place. If I had known this before I would have bought cheaper queens. I am afraid the next generation will be hybrids again.

6. The queen-breeder from whom I bought the queens wrote that his queens were 9 months old when I got them, which was in May, 1911. Will they be good for the season of 1913, or must I supersede them in the fall of 1912?

7. Will shallow extracting frames fit in any of the dovetailed 10-frame supers, or are there extra supers for them?

8. Is there any way to extract honey without an extractor and not injure the combs?

Wisconsin.

Answers.—1. Generally the bees will feed the queen although no candy be in the cage. But conditions make a difference. If, in a hive having a laying queen, you cage another queen, the queen in the cage may be neglected, especially if she is a virgin. In general, a laying queen is more sure to be fed than a virgin. If you cage a queen in a colony that has been queenless for as much as 2 or 3 days, you may feel easy that she will be fed.

2. Your proposal to kill the queen in one story, and 2 days later unite another story with a queen in it, ought to work. You can make it still more sure by putting a sheet of newspaper between the 2 stories, for that will prevent the strange bees from getting at the queen immediately. In the case you mention, if I understand correctly, you united immediately after killing the queen, without waiting the 2 days. Then you tried the flour, but that was hardly a fair test, for after the queen had been balled the bees would not accept her so readily as if she had been floured and given before the balling.

3. You can not rely upon the bees with a laying queen below to start cells over an excluder. They may start one or two, and they may start not a cell. If you get enough cells started, the scheme with grass stuffed into the entrance will work; but it will also work at home without you taking the nuclei to the woods. But the rest of your plan will not work so well. If you use only inch starters, I'll guarantee that you will have a great deal more drone-comb built than you will like. If you leave the brood without any bees, much of it may be chilled and lost. If you put the brood over the section-supers, the sections will be likely to be darkened with bits of old comb from above.

4. I don't believe you would gain anything by cutting away all but an inch of the comb. I would rather use the full comb. Besides, as already intimated, the bees will be sure to build a lot of drone comb if you cut the comb away and leave them to build it down afresh. You could pile up several stories of the brood, giving with it a few bees to take care of it, and reduce it to one story in 3 weeks, and with a laying queen you would have a good working colony. Or, you could add the bees to one of the other colonies.

5. I don't know of any way to keep Italians pure with black drones all around you.

6. Likely some of them may be still good in 1913, and some of them not.

7. They will fit all right if the depth is right.

8. No, you can not extract without an extractor.

Labeling Extracted Honey

1. Is it against the law to sell extracted honey without labeling the jars?

2. How should a label be printed?

3. Could you give me the address of some company that prints labels? Minnesota.

Answers.—1. No, the law does not require a label.

2. The label may be printed any way you like, just so that it does not mislead. You may have the word "HONEY" with your name as producer, with nothing added, or you may add some instruction about keeping honey or melting it when it granulates.

3. You can get them from the A. I. Root Co., Medina, Ohio.

Wintering Bees—Uniting Colonies—Bee-Literature

1. Will a small colony winter better in a hive of 5 or 6 frames than to leave them on the entire amount of frames in the hive?

2. As I winter my bees on the summer stands, I would like to know if cold sides and warm covers would be better than packing all around the hive?

3. When uniting, do you leave any combs in the hive above the newspaper, or do you use an empty hive-body so the bees will go down quickly?

4. I had a first swarm wait until the young queen began piping before coming out. Was there anything wrong about this? I know that after-swarms do this about every time, but I thought it queer for a prime swarm.

5. If a colony is extra-large, how large should the hive-entrance be?

6. I have read your "Forty Years Among the Bees," and am a subscriber to the American Bee Journal and another bee-paper. What book would you now advise me to read? West Virginia.

Answers.—1. Yes, the less empty space the bees have to keep warm the better.

2. It is of more importance to have warm packing on top than at the sides, for if moisture condenses overhead it will fall in drops upon the bees, while moisture dripping down the sides of the hive would not do the same harm. But in very cold localities it is well to have the sides warm also, having the warmest packing on top. As we get farther south, there is less need for packing at the sides. As far south as you are I don't know whether it would make any difference.

3. It doesn't matter whether empty combs are left in the upper story or not. The bees will unite just as quickly with or without them. Of course, after the bees have had time to unite, the 2 stories are reduced to one, the best combs of the two stories being selected to fill the one story.

4. Normally a prime swarm issues about the time the first queen-cell is sealed, and of course there could be no piping at this time. In your case it is likely that in some way the old queen was lost, and the bees would have to wait until a young queen was ready to swarm with them, and she would pipe just the same as a young queen with any after-swarm.

5. Full width of the hive.

6. Hard to say which should come first, but you will no doubt gain from any of the other good books.

Crippled Queens—Moving Bees—Swarming

1. All I know about bees I learned from books. I am practically all theory, as I have never seen anybody handle bees excepting farmers that use "inverted beer-boxes for hives," so I don't know much about handling them. Last year I wanted to make considerable increase, so I made preparation to rear queen-cells by the Doolittle plan. When the cells were all capped over I grafted one or two on each comb of the same super they were reared in after the bees had stuck them fast. I made 10 nuclei consisting of one frame of brood, bees and queen-cell, then I added several frames of sealed brood to each nuclei. Every queen hatched all right, but they all hatched cripples, and were unable to fly and be mated The bees tolerated them for a few days and then threw them out of the entrance dead. The rest of the brood that was reared in the same upper story as the queen-cells was all right. Why were the queens all cripples?

2. This fall I moved, and took my bees with me, a distance of 140 miles from New York to Connecticut. They had a wagon-ride of 10 miles at either end, and a 120-mile boat-ride. The bottom-boards and covers were removed and a wire-screen put on top and bottom. While I was unpacking them the robber-bees were very numerous. They were there in droves, and the more I unpacked the more robbers there were. The last colony I unpacked was a very strong one, and swarmed out while I was unpacking it. It refused to be hived in any kind of a hive. I tried empty combs, full combs of brood and honey, and full sheets of foundation. At the end of 3 days I hived it in the same hive it came from. I had a "beautiful" time trying to keep the robbers out of the hive of the colony that had swarmed. What made them swarm? New York.

Answers.—1. My answer can be only a guess. The first guess is that when you wanted to get the bees off the cells, you shook them off, and the shaking of the cells crippled the queens. It is also possible that you formed the nuclei as soon as the cells were sealed, and the young queens, at that time, being very delicate were chilled in the nuclei. It is also possible that the cells were attached to the combs too near the edge, where they would not be in the cluster of bees, and so they were chilled.

2. It is likely that the bees swarmed out in the first place because excited and heated, having been shut up, and being very strong, especially if the weather was warm. Then, afterward, they may have swarmed out the same as swarms so often do, possibly with no good reason that one could see, and possibly because the hive was too close. If they had been put into the cellar until cooled off, it might have helped.

Dividing vs. Swarming

I am a resident of New York city and keep a few colonies of bees in my back yard. They are often made a nuisance by swarming, and then clustering in one of my neighbor's yards. Could you enlighten me with any plan by which I could divide the colonies and thus keep them from flying?

New York.

Answer.—If you keep the wings of the queens clipped, it will probably help no little. For in that case they would generally return to their old place without settling. You may also practise shake-swarming. Look into the hives every week or 10 days, and operate when you find queen-cells started. Take away all the combs except one with perhaps the least brood in, replacing them with empty combs or frames filled with foundation. The brood taken away may be used to strengthen weak colonies, or it may be piled up several stories high over other colonies. After it has been piled up a week or more, you can use it to make new colonies if you wish increase.

Rearing vs. Buying Queens

I have had one year's experience with bees, and I like the work very much. I had a chance to buy 500 colonies at a discount, so I bought them. I have had them almost 2 years. I do not know much about requeening. I took off 2800 pounds of honey this year.

Which would be better for me to do about requeening, hire some one to requeen for me, and I work right with them, or should I send away and get some queens and introduce them myself? I would like to learn more about requeening. I want to have all the bees I can look after and do nothing else, then run for extracted honey. Arizona.

Answer. I don't know enough to say whether it would be better for you to rear your own queens or to buy them. But I can tell you some of the things I think it will be best to do in your case.

First, you should inform yourself as far as you can during the next few months by reading all you can in books and papers about queen-rearing. I especially commend to you Doolittle's "Scientific Queen-Rearing," and about 30 pages of "Fifty Years Among the Bees," beginning on page 234. The knowledge thus obtained will be of much value to you, even if you should conclude to buy all your queens.

Then next season you will be able to make pretty good work at rearing queens, even if you do make some mistakes. Your success will likely be greater if some one in your employ is an experienced queen-rearer. But whatever your success, or want of success, you may still not know whether it would be better to buy or to rear your queens, and with so many colonies it may be an important question to settle, even if it takes more than one year to settle it. So you will do well to buy part of your queens, and then you can judge for yourself better than any one can tell you.

You are likely to find that there will be more loss in introducing queens received by mail than in introducing those reared in your own apiary. Difficulties unforeseen may arise by either plan, about which you will be able to judge best by actual experience. Probably the large majority think it best to rear their own queens, but that does not say that you may not be among the few who will do better to buy.

It may not be out of place to say here that while some think it best to requeen every two years, or even every year, there are others who think they do better to leave the matter of requeening mostly in the hands of the bees, killing a queen only when she is found to be doing poor work, whatever her age, for there may be such a thing as a queen doing better work in her third year than some other queen in her first year.

REPORTS AND EXPERIENCES

Only a Third of a Crop

I have only one-third of a honey crop this year, as dry weather cut off the clover supply. Bees are now working on the asters.

(REV.) H. H. FLICK.

Murraysville, Pa., Sept. 20.

Hives Heavy With Honey

The brood-chambers are all heavy with honey at this time. I have taken some surplus honey from nearly every colony. Bees are working on dandelions and asters.

Leon, Iowa, Sept. 20. EDWIN BEVINS.

Bees Did Fairly Well

Bees did fairly well this season Mine averaged 50 pounds of comb honey per colony, which I sell for 20 cents a pound.

I am a beginner in bee-keeping, and derive much pleasure and profit from the American Bee Journal. ELMER EDDINGTON.

Witt, Ill., Oct. 7.

Big Difference in Seasons

Last year I had 20 colonies that stored 2000 pounds of honey and increased to 40 colonies, all inside of 10 days. This year it took 40 colonies all summer to store 400 pounds of honey, without any increase.

St. Joseph, Mo., Oct. 2. S. A. MATSON.

Bees Heavy in Winter Stores

The bees here have gone into winter quarters in fine condition after giving a fair crop of honey. I don't remember when they were any heavier in stores.

The Dewey foundation fastener is the most convenient one I have ever used. It is *multum in parvo* without a figure of speech.

Wiley, Colo., Oct. 9. JOHN S. SEMMENS.

Good Report for 1911

This season I secured over a ton of comb honey from 48 colonies, spring count, and increased, by dividing, to 75 colonies. I was away from home from June to October, during which time several swarms came out and absconded, there being no one on hand to take care of them.

ISAAC F. TILLINGHAST.

Factoryville, Pa., Oct. 13.

Light Honey Crop in Maine

As nearly as I can learn, the honey crop all over Maine, with the exception of Aroostook county, is light. We have a good, fair crop in this county, which is in good demand. My own crop was two tons of comb honey, which I am selling for $17 a hundred, f. o. b., my station. This is our year in Aroostook. As no doubt is known, the potato crop is generally a very short one, but this county has been blessed with nearly a full crop. Farmers are harvesting from 75 to 125 barrels (2¾ bushels each) per acre, which sell at the loading station for $1.35 to $2.25 a barrel. Two men here have 250 acres each in potatoes—not large for the West, of course. The county will harvest 20,000,000 bushels of potatoes this year, as nearly as we can estimate

We have retained our old Prohibitory Law in the State Constitution by a small majority. We had hoped for a larger one.

I started to tell a little about the bees, and have gotten off on potatoes and prohibition. Well, it's hard to keep from talking about what our hearts are full of. We have talked prohibition and reciprocity this summer to the exclusion of nearly every other subject in this locality.

The spring and early summer was the most favorable for the bees I ever saw. Forest-bloom, fruit-bloom, dandelion and clover, following each other, with favorable weather; with the clover-bloom came severe dry weather, which changed what seemed destined to be a record-breaker to just a normal yield of surplus honey.

There has been almost no bloom of any sort since clover. Brood-rearing has been light, and the colonies will go into winter quarters with old bees. This will mean spring-dwindling in 1912, unless the spring is very favorable. O. B. GRIFFIN.

Caribou, Maine, Sept. 25.

How to Make Good Fly-Paper

In these chilly days, when the flies flock to the screen door ready to pop in, how many of the readers of the American Bee Journal care to know that millions of them may be caught as follows:

Into half a pint of raw linseed oil kept hot in a water-bath, dissolve pulverized rosin until the compound is thick as syrup. Into tin pie-plates (which need not cost more than 2 cents each) put just enough of this mess to cover the bottom when the dish is heated, set it where the flies most congregate, and watch them stick When the dish is filled with flies, pour boiling water into it, which will wash it out, when it is ready to be used again. A. F. BONNEY.

Buck Grove, Iowa.

Bee-Keeping in Hawaii

The bee-keepers of these islands have had a very fair season, taking on an average about $4.50 worth of honey per colony for the year's returns (gross), and as our colonies number about 20,000, it leaves a nice income to be divided among those interested.

I have under my personal supervision 4250 colonies of bees.

The American Bee Journal contains much that is both interesting and useful.

E. C. SMITH.

Pearl City, Hawaiian Islands, Oct. 3.

Dry Weather—Watching Swarms Locate

Our bees have done fairly well this year, although we have had much dry weather. They did not swarm to the extent they generally do in the spring, but did well in gathering honey from crimson clover. Having moved my bees early last spring, about 3 miles, I lost a good many in their new location by weather changes, before they had gotten accustomed to their new fields.

I was not careful to remove hives made vacant by those that had died, and on going to the apiary one morning in May, I noticed some very dark bees that seemed very busy about one of the vacant hives, and as all of my stock was goldens, I at once found out that a wild swarm was preparing to come in. Later in the day I was about the place, the day being warm and still, when I heard the noise of a swarm of bees. I soon saw them coming across the field. I ran to the apiary and did not have long to wait, for they came over the dwelling, which is quite high, and began to lower, and were soon alighting on the front of the hive they had selected, and in an hour were busy at work on the clover.

I thus had a fine chance to witness this important action in a new swarm selecting and taking charge of a new hive. All of this was done in a small enclosure where there were other flourishing, buzzing colonies, and no mistake made by the new comers.

Again, another swarm came while I was not there, and also did their own hiving. I put several carefully cleaned hives out by the porch of the house, and in them put a dry comb and some foundation starters convenient to get at when my swarms issued, and I was again about the house one morning in June when I was surprised to see another swarm of black bees come from the same direction as the first, and enter one of my empties right by the door. All three of these are doing well, and one of the queens, being a virgin, mated with those beautiful drones of mine, and her bees are now over half very pretty 2 and 3 banded.

I have had trouble with the drones to keep them down. I shall Italianize in the spring.

I did my best to find the trees from which these swarms came, so as to get them and save future trouble, but I can not find them. They probably came from afar.

L. L. BROCKWELL.

Prince George Co., Va.

Best Honey Season in Six Years

I have had the best season for honey in my 6 years of bee-keeping. My best colony produced 96 pounds—56 pounds of comb honey and 40 pounds of extracted. This is a splendid yield when one considers the extreme dearth of honey-flora in this vicinity.

I am with you for life, and do not want to miss a single number of the American Bee Journal. WALTER E. ATKINSON.

Glendon, Md., Oct. 9.

Something for Beginners

I have kept bees on a small scale for about 10 years, or since I was about 12 years old, but I never had any success; in fact, I always had complete failures until about 4 years ago when I subscribed for the American Bee Journal. Through its columns I found the secret that I had been longing for—that of wintering bees in the cellar. Where I live is close to a creek, called "Coon Creek." It is extremely wet here, especially during the winter and spring months. My bees would die from the dampness in the hives during a cold spell in mid-winter. Of course, I think I could now remedy that since I have studied the business a little more, and consequently know little more than I did a few years ago. But I am getting off from my subject.

In the spring of 1908 I had the good fortune of having 2 colonies of bees in the kind of hive that every beginner is so familiar with—the old box-hive. Thinking I would try the new kind of hive, or the frame hive, I accordingly went to a near-by city one afternoon, and purchased from an old bee-keeper two factory-made hives. One was an 8 and the other a 10 frame hive. I cleaned them up, for they were in bad shape, and got them in readiness for swarming.

June 3, a medium-sized swarm was cast. I put it in the 8-frame hive, and about a week later the other box-hive colony cast a large swarm also, and it was accordingly put into the 10-frame hive. To my surprise and joy, I got 90 sections of nice comb honey from the 8-frame colony, which contained the medium-sized swarm; and 60 sections from the 10-frame colony containing the large swarm. That settled it—no more box-hives for me; and as the smaller swarm in the 8-frame hive gave the most proceeds, and for other reasons, I decided to adopt the 8-frame hive.

But now a new trouble confronted me, that of buying the hives, supers, etc. I found from a factory catalog that modern hives, 1½ story, cost upwards of, if not more than, $2.00 each. This, I concluded, was almost too steep for me, so, of course, the old store-box lumber came into play. Now, I want to say right here, that I have some hives that I made out of the old, knotty and split-up lumber, as some call it, that comes from store-boxes, that I think answer the purpose quite as well as hives purchased from the factory. However, this article is not in the least intended to hurt, or throw any slurs against, the factory-made hives, but, on the other hand, it is for the benefit of beginners, and people who know how to handle the hammer and saw. I have for the past 2 years made 2-story hives without frames, sections, and labor, at a cost of 15 cents per hive.

One day last winter I went to the city for the purpose of getting store-box lumber. On making a few inquiries one man told me to go back of his store and I could have any boxes to suit my taste for nothing, he being anxious to get rid of them. At another place I got 50 cents worth. Thinking I had secured enough, I set to work taking them apart, as I had previously found it no easy matter to haul a high load of dry goods boxes, etc. I also purchased 10 cents worth of nails, to work in with those I would secure from the lumber.

From that 50 cents worth of lumber and 10 cents worth of nails I have since made 15 hives, each one consisting of the following: One hive-body, cap, bottom-board, and half-story super, at the cost, without labor, of exactly 4 cents each. Now, remember, that this lumber consists mostly of ¾ and 1 inch stuff. If I would have purchased those 15 1½-story hives direct from the factory, I would have paid nearly $30 for them; as I did the carpenter work during odd hours when outside work could not be done, such as rainy days, etc., I do not count the labor as much.

My favorite way of making hives is as follows: Cut the boards to the dimensions of an 8 or 10 frame hive, or whatever hive you prefer. I would advise you to have the end-pieces one whole board.

To make a hanging place for the frames, I take the end-boards and measure down from the top on the inside about ¾ inch, then I draw a line clear across the board, and by sawing half way through the thickness of the end-piece and chiseling it out from the top I have a fine place for the frames to hang on. (Remember this is done before nailing.

Caution should be exercised in getting the exact measurements of a factory-made hive, or go by the kind of frames you intend using.

Now, as to the supers, I believe the outside, or storm super, and the inside one to hold the sections are the best, as it leaves an air-space on top of the brood-chamber if properly fixed. Of course, it takes a little more lumber, but in the end I think I gain by it.

The season of 1910 was not a very good one in this part of Iowa, as it was too dry, but from about 20 colonies, spring count, I secured 1100 sections of fine white clover honey, and realized about $100 for it, or about $5.00 per colony.

Bee-keeping in Iowa is not up to the standard that it ought to be, or at least in this (Iowa) county in which I live, and Benton county to the north. There are hardly a half-dozen bee-keepers that are up with modern methods of keeping bees, although there are tons of honey going to waste every year. So honey in this part of Iowa is a scarce article, but all the better for me, as I have ready sales for my honey in the home market.

The way I dispose of my honey is this: As soon as I have a couple hundred pounds of honey on hand, and as I live on the main road, and my apiary is close to the road, I put up a sign which reads, "HONEY FOR SALE." The result is, that people from near-by towns make special trips for my honey, for, as a rule, I do not do any delivering.

After the honey season for 1910 was over, it being about July 15, I closed out the entire 1100 sections in 15 days. I had the money in my hands, and the fortunate customers were happy with their "winter supply of honey," as some called it. HARVEY HARTZ.

Blairstown, Iowa.

[Unless the ordinary bee-keeper is an extraordinarily good carpenter, the hives he will make from second-hand store-boxes will not compare with the factory-made hives. The successful commercial bee-keeper, who uses hives by the hundred, would never think of wasting his valuable time in such work. However, where a bee-keeper doesn't care, and hasn't anything else to do, and also has good store-boxes *given* to him—why, of course, he can save a little money by working over such boxes into hives that will answer the purpose. But we dare say that very few will have either the time or the patience to do it. We would, personally, take the accurately-made factory hives every time, as they will last a life-time, and are ever so much better than would be the hives that *we* could make from store-boxes.—EDITOR.]

Season in Tennessee—Requeening

The years of 1900 and 1910 were both bad here, almost a famine for bees; but 1911 was very good, but the trouble was there were no bees to gather the honey. They got rich by Aug. 1st, but a very small percent was able to gather surplus honey, owing largely to the discouragement of bee-keepers in the two bad seasons of 1909 and 1910. Bee-keepers should see that they have plenty of bees and no honey, to having no bees and plenty of honey.

Another thing that is very important to the bee-man, is to introduce new blood in the apiary every 6 or 8 years, by buying one or more queens some 100 or more miles away. This gives the bees more vigor, and more energy for some time. But rear queens from the queen producing the best of workers, as we don't care so much for beauty of late years.

I don't think it will pay to buy queens to supply an apiary, but buy a queen and rear the rest from her, as that will give a complete cross of blood. My way is, to rear my queens just before the close of the honey-flow from sourwood, as I don't care for the bees to be queenless at a time when they will have no work to do.

Queens that are brought from a distance are very often injured in the mails, and soon die. I have had them to lay only 4 or 5 days and then die, while the longest I have had lived 2 years. I have bought several queens in the spring, and they would disappear by fall. So the best plan is to rear queens at once from a shipped queen, which should be a tested one. R. A. SHULTZ.

Cosby, Tenn., Oct. 20.

The Ontario Convention.—The annual convention of the Ontario Bee-Keepers' Association will be held in the York County Council Chambers, Wednesday to Friday, Nov. 15, 16 and 17, 1911, in Toronto, Ont. A very interesting program has been prepared for those who attend, a copy of which may be had by addressing the secretary, P. W. Hodgetts, Toronto, Ont. Special railroad rates have been secured. Any one desiring to attend this leading convention of Canada should send for the program, which gives all necessary information.

◆

Illinois State Convention.—The Illinois State Bee-Keepers' Association will hold its 21st annual meeting in the State House at Springfield, on Thursday and Friday, Nov. 23 and 24, 1911.

The railroad fare, being but 2 cents a mile, is the same as one fare and a third for the round trip, when we used to pay 3 cents per mile. And there should be no one to stay away if we do not succeed in getting a better rate on account of I. O. O. F. meeting the same week.

The Executive Committee are endeavoring to get Dr. C. C. Miller, of Marengo, Ill., George W. York, of the American Bee Journal and President of the National Association, and W. B. Moore, of Altona, Ill., as well as others, on the program.

In consideration of all the long-continued work of the Illinois State Association in obtaining the foul brood law, we all, as members of the same, ought surely to get together and have a great love feast. JAS. A. STONE, *Sec.*

Springfield, Ill., Rt. 4.

The Eastern Illinois Convention.—The 4th annual meeting of the Eastern Illinois Bee-Keepers' Association will be held in the Christian Church at Watseka, Ill., Nov. 14 and 15, 1911, beginning at 10:30 a.m. The program contains an interesting list of questions for discussion. All who are interested should send for a copy of the program to the secretary, H. S. Duby, St. Anne, Ill. This is one of the most helpful and interesting bee-keepers' conventions held in Illinois, and should be well attended. We had the pleasure of being there last year when it met at St. Anne, and enjoyed it very much. The president of the association, Mr. J. H. Roberts, lives at Watseka, and we are very certain that the coming meeting will be one of the best ever held in eastern Illinois.

◆

The Colorado Convention.—The Colorado State Bee-Keepers' Association will hold its convention Dec. 12 and 13, 1911, at the Auditorium Hotel, 14th and Stout Sts., Denver, Colo. There will be a rate of one fare for the round trip, good from Dec. 8 to 15. (The American National Live Stock Association meets at the same dates, so those interested may attend both conventions.) There will be sessions devoted to freight-rates, foul brood, grading honey, selling, etc. This convention will be one of discussion rather than set speeches or papers prepared in advance. The Auditorium Hotel has placed its Convention Hall, seating 175, at our disposal.

WESLEY FOSTER, *Sec.*

Boulder, Colo.

◆

Pennsylvania Convention. — The annual meeting of the Pennsylvania State Bee-Keepers' Association will be held in the Court House at Lancaster, Pa., Dec. 1 and 2. This promises to be the most important meeting yet held. Every bee-keeper is invited to be present. Matters of interest will come up for discussion. An examination for volunteer apiary inspectors will be held at the same time. H. C. KLINGER, *Sec.*

Liverpool, Pa.

"Meadows and Pastures," by Joseph E. Wing, a staff correspondent of the Breeders' Gazette, is the title of a cloth-bound book of 418 pages, devoted to a study of the production, development and care of grasses, as related to meadows and pastures. Mr. Wing made investigations in every State and several foreign countries, besides thoroughly studying the scant literature of the subject. The several pages devoted to sweet clover is the first complete defense of this clover that we have seen in book form. Its growing is encouraged and its value described. This book gives definite instructions concerning every view of the subject. It is fully illustrated, and certainly should be in the hands of every farmer of this country. The post-paid price is $1.50, or we club it with the American Bee Journal for a year—both for $2.30. Send all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

FOR SALE.—Bees, honey, and bee-supplies. We are in the market for beeswax and honey.
5Atf Ogden Bee & Honey Co., Ogden Utah.

WANTED—Early orders for the Old Reliable Bingham Bee-Smokers. Address,
12Atf T. F. Bingham, Alma, Mich.

FOR SALE—White and Amber Extracted Honey in 60-lb. tin cans.
Wm. Ehlert, Vesper, Wis.

FOR SALE.—Thirty-five colonies of Bees, all colonies strong and in good condition.
Inquire of J. D. Holdener, Carlyle, Ill.

HONEY FOR SALE.—Choice white clover and raspberry honey. Thick and well ripened, with a delicious flavor. Write for prices.
D. H. Welch, 834 Park Ave., Racine, Wis.

BARNES Foot-Power Circular Saw, used but very little; cost $35; will sell for $25. Must sell by Dec. 15th.
R. E. Hammond, Rt. 1, Heath Springs, S. C.

FOR SALE—250 Business Size Bond Envelopes, and 250 Bond Letter-Heads, printed to order for $1.00. Samples free.
Walter G. Collins, R. D. 3, Cohocton, N. Y.

INDIAN RUNNER Duck Culture Book. Information that beginners are looking for. (Special price, 50 cents.) Catalog for two stamps. Levi D. Yoder,
8A5t Box 44, Dublin, Pa.

FOR SALE—Empty second-hand 60-lb. cans, as good as new; two cans to a case, at 25c per case. C. H. W. Weber & Co.,
2146 Central Ave., Cincinnati, Ohio.

SECOND-HAND CANS—Good ones, two 5-gal. in a box—5 boxes at 45 cts. a box; 10 boxes at 40 cts. a box; or 20 boxes at 35 cts. a box. Address, George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

Colonies of Italian bees in L. hives, 10-fr., built on full brood-fdn., wired, body and sh. super, redw., dovet., 3 coats white, sheeted lids, each neat, modern and full-stored—any time. Jos. Wallrath, Antioch, Cal. 2A1t

THE BEE-KEEPERS' REVIEW.—Have you read it? Just the journal for both the beginner and expert. Tells the former in plain simple language just what the latter are doing. Helps the latter by giving all the latest methods. Send 15 cts. in stamps for three months' trial subscription. Agents wanted in all localities. Subscription price, $1.00 per year. E. B. Tyrrell,
Editor and Publisher,
10Atf 230 Woodland Ave., Detroit, Mich.

FOR SALE—I will sell the following list of bee-papers, and also 3 or 4 trios of Indian Runner Ducks for $3.00 per trio. Vols. of American Bee Journal for 1904 and 1905, 50 Nos. of 1906, 28 Nos. of 1907, 10 Nos. of 1908, whole Vol. of 1910. Gleanings—22 Nos. of 1907, 16 Nos. of 1908, 22 Nos. of 1909, 22 Nos. of 1902, 22 Nos. of 1904, 11 Nos. of 1906, all Nos. for 1903 and 1910. Bee-Keepers' Review—10 Nos. of 1910, 7 Nos. of 1905, 12 Nos. of 1904, 7 Nos. of 1905, and 20 Nos. with dates running from 1890 to 1899. Edwin Bevins, Leon, Iowa.

SUPERIOR BEE-SUPPLIES

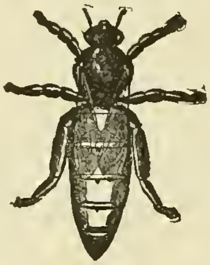
Specially made for Western bee-keepers by G. B. Lewis Co. Sold by

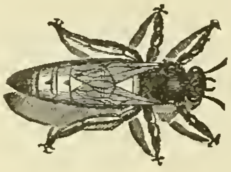
Colorado Honey-Producers' Association,
DENVER, COLO.

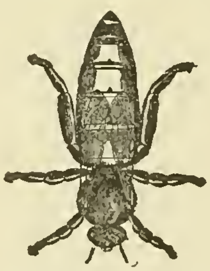
"**Bees and Honey**"—the book by Thos. G. Newman—is almost out of print, but we have a few copies left (cloth bound) at 50 cents each. Do you want one? Address the office of the American Bee Journal.

Orders Booked for 1912 for

Untested Italian Queen-Bees







Our Standard-Bred

6 Queens for $4.50; 3 for $2.50; 1 for 90 cents.

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

GEORGE W. YORK & CO.:—The two queens received of you some time ago are fine They are good breeders, and the workers are showing up fine I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co, Kan, July 15. A. W. SWAN.

GEORGE W. YORK & CO:—After importing queens for 15 years you have sent me the best She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada July 22 CHAS. MITCHELL

GEORGE W. YORK & CO.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22. N. P. OOLESBY.

GEORGE W YORK & CO.:—The queen I received of you a few days ago came through O. K. and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line. E. E. MCCOLM.
Marion Co., Ill., July 13.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for $1.60. Three Queens (without Journal) would be $2.50, or 6 for $4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

George W. York & Co., Chicago, Ill.

Please mention Am. Bee Journal when writing.

Honey to Sell or Wanted

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston.
11Atf M. V. Facey, Preston, Minn.

WILL PAY for early shipments of good flavored clean honey. Extracted, 60-lb. cans, 8c. Comb in sections, frames or boxes, 15c net weight. F. O. B. Baxter Springs, Kan.
3Atf O. N. Baldwin

FOR SALE.—Absolutely pure California sage extracted honey; several cars white and light amber, in 60-lb. tins, two tins to a case. Write us for samples and prices.
Rather Bros., Managers,
Hemet Valley Bee-Keepers' Association,
7Atf Hemet, Cal

HONEY FOR SALE—We have some of the Finest Water-White Alfalfa Honey in 60-lb. cans, two in a box, at 11c a pound; 4 or more cans, at 10½c. 10 or more cans at 10¼c. We have some other fine Extracted Honey, put up in the same way, but not quite so white, at ¼c less per pound. A good sample of either kind for 10 cts., which amount can be deducted from your first order. Address,
George W. York & Co.,
117 North Jefferson St., Chicago, Ill.

"**Advanced Bee-Culture.**"—A new edition of this book, by the late W. Z. Hutchinson, of Michigan, is one of the practical and up-to-date books for the specialist bee-keeper ever written. Its 200 pages touch on nearly 500 subjects pertinent to modern bee-keeping, and all are discussed authoritatively. It has many fine illustrations. It is bound in attractive and substantial cloth, with a clover design in natural colors on its cover. All together it is a volume whose appearance and unquestionable worth justly entitles it to a place in the library of every bee-keeper. No more important work on the subject has appeared. It is mailed for only $1.00, or with the American Bee Journal one year—both for $1.80. Send all orders to the office of the American Bee Journal, 117 North Jefferson Street, Chicago, Ill.

FOR SALE—Duston White Wyandottes, $2; 15 eggs, $1; $5 per 100.
11A1y Elmer Gimlin, Taylorville, Ill.

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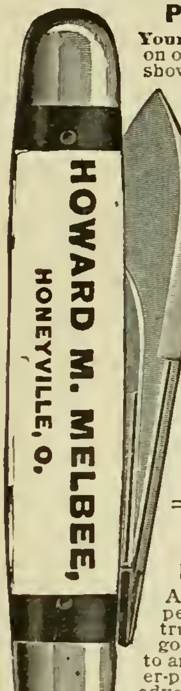
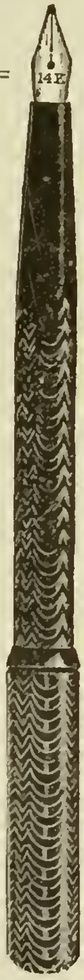
Sample copies free, to help you interest your friends and get subscriptions. If you will send us names of your neighbors or friends we will mail them sample copies free. After they have received their copies, with a little talk you can get some to subscribe and so either get your own subscription free or receive some of the useful premiums below. They're worth getting. **We give you a year's subscription free** for sending us 3 new subscriptions at $1.00 each.

BEE-KEEPERS' NOVELTY POCKET-KNIFE



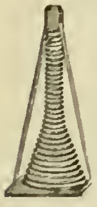
Your name and address put on one side of the handle as shown in cut, and on the other side pictures of a queen-bee, a worker, and a drone. The handle is celluloid and transparent, through which is seen your name. If you lose this knife it can be returned to you, or serves to identify you if you happen to be injured fatally, or are unconscious. Cut is exact size. Be sure to write exact name and address. Knife delivered in two weeks. Price of knife alone, postpaid, $1.10. With year's subscription, $1.90. **Free** for 3 new $1 subscriptions.

BEE-KEEPER'S GOLD-NIB FOUNTAIN PEN



A really good pen. As far as true usefulness goes it is equal to any of the higher-priced, much-advertised pens. If you pay more it's the **name** you're charged for. The Gold Nib is guaranteed 14 Karat gold, Iridium pointed. The holder is hard-rubber, handsomely finished. The cover fits snugly and can't slip off because it slightly wedges over the barrel at either end. This pen is non-leakable. It is very easily cleaned, the pen-point and feeder being quickly removed. The simple feeder gives a uniform supply of ink to the pen-point without dropping, blotting or spotting. Every bee-keeper ought to carry one in his vest-pocket. Comes in box with directions and filler. Each pen guaranteed. Here shown ⅔ actual size.
Price alone, postpaid, $1.00. With a year's subscription, $1.70. **Given free** for 3 new subscriptions at $1.00 each.

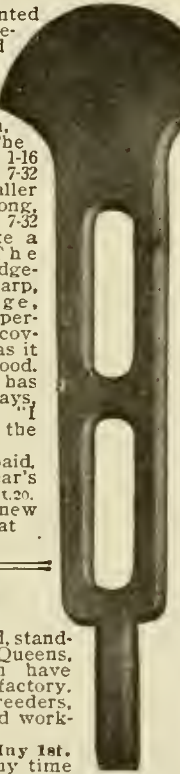
QUEEN-CLIPPING DEVICE



The Monette Queen-Clipping Device is a fine thing for use in catching and clipping Queens' wings. 4½ inches high. It is used by many bee-keepers. Full printed directions sent with each one.

Price alone, postpaid, 25 cents. With a year's subscription, $1.10. **Given free** for 2 new subscriptions at $1.00 each.

IDEAL HIVE-TOOL

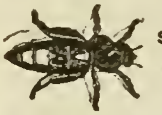


Exactly half actual size.

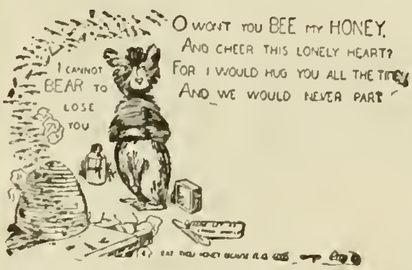
A special tool invented by a Minnesota bee-keeper, adapted for prying up supers and for general work around the apairy. Made of malleable iron, 8½ inches long. The middle part is 1 1-16 inches wide and 7-32 thick. The smaller end is 1 7-8 inches long, 1-2 inch wide, and 7-32 thick, ending like a screw-driver. The larger end is wedge-shaped having a sharp, semi-circular edge, making it almost perfect for prying up covers, supers, etc., as it does not mar the wood. Dr. Miller, who has used it since 1903 says, January 7, 1907: "I think as much of the tool as ever."
Price alone, postpaid, 40cents. With a year's subscription, $1.20. **Given free** for 2 new subscriptions at $1.00 each.

PREMIUM QUEENS

These are untested, standard-bred, Italian Queens, reports of which have been highly satisfactory. They are active breeders, and produce good workers.
Sent only after May 1st. Orders booked any time for 1908 queens. Safe delivery guaranteed. Price, **90** cents each, 6 for $4.50. or 12 for $8.50. One queen with a year's subscription, $1.60. **Free** for 2 new $1 subscriptions.



HUMOROUS BEE POST-CARDS


O WONT YOU BEE MY HONEY.
AND CHEER THIS LONELY HEART?
FOR I WOULD HUG YOU ALL THE TIME
AND WE WOULD NEVER PART
I CANNOT BEAR TO LOSE YOU

A "Teddy Bear" on good terms with everybody including the bees swarming out of the old-fashioned "skep." Size 3½ x 5½, printed in four colors. Blank space 1½ x 3 inches is for writing. Prices—3, postpaid, 10 cents; 10 for 25 cents. Ten with a year's subscription, $1.10. 6 **given free** for one $1.00 subscription.

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Forty Years Among the Bees, by Dr. C. C. Miller.—334 pages, bound in handsome cloth, with gold letters and design, illustrated with 112 beautiful half-tone pictures, taken by Dr. Miller. It is a good, live story of successful bee-keeping by one of the masters, and shows just how Dr. Miller works with bees. Price alone, $1.00. With a year's subscription, $1.75. GIVEN FREE for 3 new subscriptions at $1.00 each.

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A B C & X Y Z of Bee Culture, by A. I. & E. R. Root.—Over 500 pages, describing everything pertaining to the care of honey-bees. 400 engravings. Bound in cloth, price alone, $1.50. With a year's subscription, $2.25. GIVEN FREE for 5 new subscriptions at $1.00 each.

Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—How the very best queens are reared. Bound in cloth and illustrated. Price alone, $1.00. With a year's subscription, $1.50. GIVEN FREE for 2 new subscriptions at $1.00 each. In leatherette binding, price alone, 75 cents. With a year's subscription, $1.25. GIVEN FREE for 2 new subscriptions, $1.00 each.

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Langstroth on the Honey-Bee, revised by Dadant.—This classic has been entirely rewritten. Fully illustrated. No apiarian library is complete without this standard work by "The Father of American Bee-Culture." 520 pages, bound in cloth. Price alone, $1.20. With a year's subscription, $2.00. GIVEN FREE for 4 new subscriptions at $1.00 each.

The Honey-Money Stories.—64-page booklet of short, bright items about honey. Has 33 fine illustrations, and 3 bee-songs. Its main object is to interest people in honey as a daily table article. Price 25 cents. With a year's subscription, $1.10. GIVEN FREE for one new subscription at $1.00. Three copies for 50 cents; or the 3 with a year's subscription, $1.30; or the 3 copies GIVEN FREE for 2 new subscriptions at $1.00 each.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keepers' handbook of 138 pages, which is just what our German friends will want. It is fully illustrated and neatly bound in cloth. Price alone, $1.00. With a year's subscription, $1.70. GIVEN FREE for 3 new subscriptions at $1.00 each.

THE EMERSON BINDER

A stiff board outside like a book-cover with cloth back. Will hold easily 3 volumes (36 numbers) of the American Bee Journal. Makes reference easy, preserves copies from loss, dust and mutilation. Price, postpaid, 75 cents. With a year's subscription, 1.50. GIVEN FREE for 2 new subscriptions at $1.00 each.

WOOD BINDER

Holds 3 volumes. Has wood back but no covers. Price, postpaid, 20 cents. With a year's subscription $1.10. GIVEN FREE for one new subscription at $1.00.

BEE-HIVE CLOCK

A few of these handsome "bronze-metal" clocks left. Base 10 1-2 inches wide by 9 3-4 inches high. Design is a straw skep with clock face in middle. Keeps excellent time, durable and reliable. Weight, boxed, 4 pounds. You pay express charges. Price, $1.50. With a year's subscription, $2.25. GIVEN FREE for 5 new subscriptions at $1.00 each.

George W. York & Co., 117 North Jefferson St., Chicago, Ill.

THE DITTMER WAY

Is to have your Wax worked into Comb Foundation by the

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This is a saving over the old way of selling your Wax and then buying your Comb Foundation. Send us a postal asking for further information.

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BEE SMOKER
Pat'd 1878, '82, '92 & 1903

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Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

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All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.........$1.50—4 inch stove
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The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

T. F. BINGHAM, Alma, Mich.

Patented, May 20, 1879. **BEST ON EARTH.**

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BIG MONEY IN FURS

Over ten million dollars will be paid to trappers of fur bearing animals during the coming winter. Any man or boy living in the country can add a goodly sum to his earnings by trapping during spare moments. We furnish ABSOLUTELY FREE a complete Trapper's Guide which tells you the size of trap and kind of bait to use for the different animals, how to remove the skins and prepare them for market. We also furnish the best traps and baits at lowest prices. We receive more furs direct from trapping grounds than any other house in the world, therefore can pay the highest prices for them. Our price lists, shipping tags, etc., are also FREE for the asking. If you are a trapper or want to become one, write to us today. We will help you.

F. C. TAYLOR & CO.
GREATEST FUR HOUSE IN THE WORLD
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"Griggs Saves You Freight"

- TOLEDO -

Is the point to get Goods **Quick and at least cost.**

6 Per Cent Discount

This month. Send list of Goods needed and let us figure with you. Can take **Honey and Wax** in exchange for Supplies.

S. J. GRIGGS & CO.,
24 N. Erie St., TOLEDO, O.

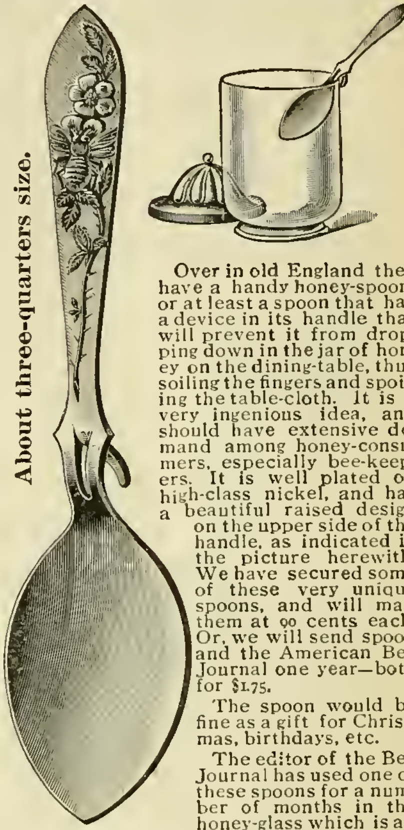
"Griggs The King-Bee."

Back Vols. American Bee Journal

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal,
117 N. Jefferson St., Chicago, Ill.

"First Lessons in Bee-Keeping" on another page.

An English Honey-Spoon



About three-quarters size.

Over in old England they have a handy honey-spoon, or at least a spoon that has a device in its handle that will prevent it from dropping down in the jar of honey on the dining-table, thus soiling the fingers and spoiling the table-cloth. It is a very ingenious idea, and should have extensive demand among honey-consumers, especially bee-keepers. It is well plated on high-class nickel, and has a beautiful raised design on the upper side of the handle, as indicated in the picture herewith. We have secured some of these very unique spoons, and will mail them at 90 cents each. Or, we will send spoon and the American Bee Journal one year—both for $1.75.

The spoon would be fine as a gift for Christmas, birthdays, etc.

The editor of the Bee Journal has used one of these spoons for a number of months in the honey-glass which is always on his table, and he would not like to be without this spoon again, as it is so convenient, and also unusual in this country. We can fill orders promptly now. You certainly would be pleased with this honey-spoon, and so would any one to whom you might present it. Send all orders to,

GEORGE W. YORK & CO.,
- CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Early Christmas Shopping

It is all very well to talk about early Christmas shopping, but nine out of ten of us have not the early Christmas shopping wherewithal. What with shoes for Johnnie, and a coat for Susan, and gentle reminders from the coalman and other trusting ones, most of us come bump up against the week before Christmas before we can spare a cent for Christmas doings. Then the question is, What? The stores are jammed, there are heaps of foolish notions to catch the belated shopper.

And yet how easy it is to get just the right thing at a modest cost, namely, a year's subscription to The Youth's Companion!

It costs $1.75, and how can you invest $1.75 to better advantage if you wish to make a gift that will benefit as well as gratify the friend or family to whom you send it? And if you can subscribe early, you get just so much more for the money—all the issues for the remaining weeks of 1911 free.

Then, too, your present will be as fresh and pleasing a year from now as on Christmas morning, and of how many presents can that be said?

The one to whom you give the subscription will receive free The Companion's Calendar for 1912, lithographed in ten colors and gold, and you, too, as giver of the subscription, will receive a copy of the Calendar.

Only $1.75 now for the 52 weekly issues, but on January 1, 1912, the subscription price will be advanced to $2.00.

THE YOUTH'S COMPANION,
144 Berkeley St., Boston, Mass.

New Subscriptions Received at the Office of the American Bee Journal.

Tennessee-Bred Queens

All from Extra-Select Mothers, Davis' Best, and the Best Queens Money Can Buy

39 Years' Experience in Queen-Rearing.
Breed Three-Band Italian Queens Only.

	July 1 to Nov. 1			Nov. 1 to July 1		
	1	6	12	1	6	12
Untested	$ .75	$4.00	$7.50	$1.00	$ 5.00	$ 9.00
Select Untested	1.00	5.00	9.00	1.25	6.50	12.00
Tested	1.50	8.00	15.00	1.75	9.00	17.00
Select Tested	2.00	10.00	18.00	2.50	13.50	25.00

The Very Best Breeder	$10.00
Select Breeder	5.00
Nuclei—no queen—1-fr.	2.00
" " " 2-fr.	3.00
" " " 3-fr.	4.00
Colony " " 8-fr.	8.00

Select the Queen wanted and add her price to the price of the Nucleus or Full Colony.

For Queens to be exported, add 20 percent to above prices, except to Canada, Cuba or Mexico.

All Contracts have now been filled, and I am at last ready to serve you promptly.

JOHN M. DAVIS,

Dealer in, Importer and Breeder of

Italian Queen-Bees

Depot, Telegraph & Express Offices—Ewell Sta. on L. & N.Ry. **SPRING HILL, TENN.**

The Superior WRENCH

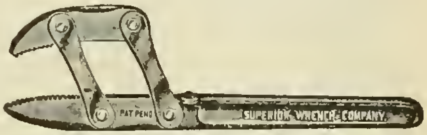
A Necessity on Every Farm and in Every Household

The Superior Wrench will immediately grip and hold any nut, pipe or bolt, no matter what the shape, condition or size, up to its full opening capacity.

This wrench is always ready, and needs no adjustment for any size or shape whatever. You can readily understand its working principle from the illustration.

USE IT on badly disfigured nuts, corner all off, and where nothing but a cold-chisel and hammer have been effective heretofore; the Superior Wrench is the best, and will take off or tighten up any nut in such condition, and do it quickly.

As a Farm Wrench the Superior Wrench has no equal. It will grip any nut or bolt on the binder, mowing machine, or any piece of farm machinery, and something the farmer will appreciate is this. Did you ever find a bolt that persisted in turning when you were trying to remove a nut? Try the Superior Wrench on it. It will hold it every time.



In operating this wrench it is not necessary to use both hands. If you do use both hands, place one on the heel of the loose jaw and not on the point. By simply setting the loose jaw up against the nut or pipe you wish to grip, drawing the handle to you, the wrench takes hold, and the harder you pull the tighter it grips.

The Superior Wrench is one of the most convenient HOUSEHOLD TOOLS you have ever seen. A woman can use it, and she does use it in many ways.

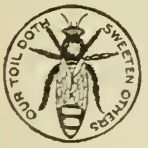
We mail the Superior Wrench for 70 cents; or with the American Bee Journal for one year—both for only $1.50. Or, we will mail it *free* as a premium for sending us two new subscribers for the American Bee Journal for one year with $2.00 to pay for same. Address,

George W. York & Co.
117 N. Jefferson St., Chicago, Ill.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."


OUR TOIL DOTH SWEETEN OTHERS

The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

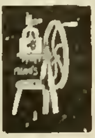
PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.
CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

MAKE HENS LAY

By feeding raw bone. Its egg-producing value is four times that of grain. Eggs more fertile, chicks more vigorous, broilers earlier, fowls heavier profits larger.



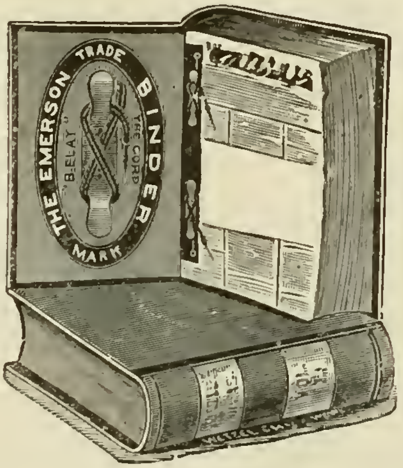
MANN'S LATEST MODEL Bone Cutter

Cuts all bone with adhering meat and gristle. Never clogs. **10 Days' Free Trial.** No money in advance.

Send Today for Free Book.
F. W. Mann Co., Box 348, Milford, Mass.

Please mention Am. Bee Journal when writing.

Americrn Bee Journal Binder!



The Emerson Binder is perhaps the best and most convenient of all Binders that are made for holding the copies of various publications as they come from week to week or month to month. Those we have for the American Bee Journal are stiff mottled pasteboard with cloth back. They are very strong and durable. One of these Binders will hold the American Bee Journal for 3 years, and the price is only 75 cents, postpaid; or we will send a Binder with a year's subscription to the American Bee Journal—both for $1.60.

GEORGE W. YORK & CO.,
117 N. Jefferson St. CHICAGO, ILL.

Bee-Supplies

We are Western Agents for—— 1Atf

"FALCONER"

Write for Fall Discounts—we can save you money.

C. C. Clemons Bee-Supply Co.
128 Grand Ave., Kansas City, Mo.

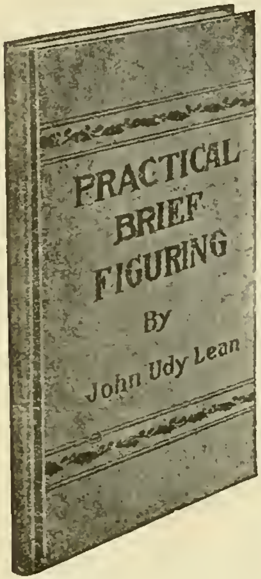
Please mention Am. Bee Journal when writing.

"Bee-Keepers' Guide"

This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, $1.20; or with a year's subscription to the American Bee Journal—both for $1.90. Send all orders to the office of the American Bee Journal.

Are You Good at Figures?

These Books would help you much



Practical Brief Figuring

Makes figuring easy and attractive. It contains "short cuts" for the merchant, manufacturer, mechanic and farmer, besides a treatise on the Civil Service Examination in arithmetic.

Freaks of Figures

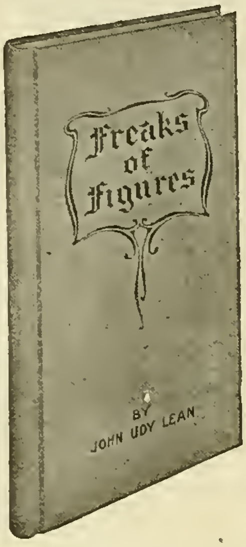
Is a collection of interesting and very amusing mental diversions for parlor entertainments and social gatherings for old and young. Both of these books are printed on an excellent quality of paper, and neatly bound.

We have completed arrangements with the author by which these books may be secured by all subscribers of the American Bee Journal at a nominal figure as follows:

We will send you the American Bee Journal for one year and a copy of either "Practical Brief Figuring" or "Freaks of Figures," prepaid, for $1.30.

We will send you the American Bee Journal for one year and a copy of both books, prepaid, on receipt of $1.70.

These offers are good for new subscriptions and renewals.



The postpaid price of "Practical Brief Figuring" is 60c; of "Freaks of Figures," 50c.

George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

"First Lessons in Bee-Keeping" SEE PAGE 322

Poultry Profits Doubled

I bring only 15¢ per lb.
I bring 30¢ per lb.
Capon 8 lbs.
ROOSTER 4 lbs.

CAPONS bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

PILLING CAPONIZING SETS

Sent postpaid, $2.50 per set with "Easy-to-use" instructions. We also make *Poultry Marker*, 25c. *Gape Worm Extractor*, 25c *French Killing Knife*, 50c. Booklet, "Guide for Caponizing," FREE.

G. P. PILLING & SON CO., 23d & Arch Sts., Philadelphia, Pa.

Please mention Am. Bee Journal when writing.

Souvenir Bee Postal Cards

We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for $1.10. Send all orders to the office of the American Bee Journal.

FREE Booklets for Bee-Keepers!

Make good use of your spare time this Winter. Get a better honey crop by fittimg yourself to be a better bee-keeper. The booklets named below are sent, free of charge, to our friends who request them. Each is of considerable value to the apiarist who is interested in the particular phase of the work treated. You may have all of them, if you desire. Perhaps you have a friend who would like copies, too.

Here are a Few Titles:

FACTS ABOUT BEES

or the Danzenbaker Hive and its management. 60 pages illustrated from photographs.

THE BUCKEYE HIVE

Wintering bees in the double-walled hive. 76 pages—just published.

BEE-KEEPER AND FRUIT-GROWER

How and Why their interests are mutual. New edition. 24 pages.

HOW TO PRODUCE EXTRACTED HONEY

Explains in detail complete process of extracted honey production. 44 pages—illustrated.

Other interesting booklets and the leading text-books on bee-keeping are listed in our catalog of bee-keepers' supplies. Better refer to these and "study-up" in your spare moments.

We have prepared a 16-page catalog of Money Saving Combination on Magazines, Books, and Useful articles with GLEANINGS IN BEE CULTURE. These apply for new and renewal subscriptions alike. Send post-card for the catalog.

NOVEMBER Early Order Discount is 5 Percent

Save 5 cents on every dollar you will invest in supplies for next season by sending your order in **Now.** You know the quality of **Root's Standard Bee-Supplies**—you know we will treat you right. Go through our catalog carefully and get up an early order—we've made it worth while.

This discount applies to goods listed in our general catalog except as follows: Paint, Porter bee-escapes, Bingham smokers, bees, queens, printed matter, cartons, honey-packages, tin and glass, bushel boxes, hot-bed sash, honey-labels, seeds and such seasonable goods. Where a large general order includes some of the excepted articles, not exceeding Ten to Twenty Percent of the entire order, the discount may be applied to the whole order.

THE A. I. ROOT COMPANY,
213 Institute Place, Chicago, Illinois
R. W. BOYDEN, Mgr. (Jeffrey Building) Tel. 1484 North.

DOOLITTLE'S "Scientific Queen-Rearing"

This is G. M. Doolittle's master-piece on rearing the best of queens in perfect accord with Nature's way. It is for the amateur and the veteran in bee-keeping. The A. I. Root Co., who ought to know, say this about Doolittle's queen-rearing book:

"It is practically the only comprehensive book on queen-rearing now in print. It is looked upon by many as the foundation of modern methods of rearing queens wholesale."

Mr. Doolittle's book also gives his method of producing comb honey, and the care of same; his management of swarming, weak colonies, etc. It is a book of 126 pages, and is mailed at the following prices: Bound in cloth, $1.00; bound in leatherette, 75 cents.

Special Clubbing Offer

We offer a cloth-bound copy of this book with the American Bee Journal one year—both for $1.50; or a copy of the leatherette-bound edition, with the American Bee Journal one year—both for $1.25. The cloth-bound book given free for getting 3 new subscribers at $1. each; or the leatherette-bound copy given for 2 new subscribers.

Every bee-keeper should have a copy of Mr. Doolittle's book, as he is one of the standard authorities of the world on the subject of queen-rearing and everything else connected with bee-keeping and honey-production.

George W. York & Co., **Chicago, Ill.**

Mexico as a Bee-Country

B. A. Hadsell, one of the most experienced and largest bee-keepers in the world—has made six trips to Mexico, investigating that place as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated 32-page booklet, describing the tropics of Mexico as a Bee-Man's Paradise, which is also superior as a farming, stock-raising and fruit country. Where mercury ranges between 55 and 98 Frost and sun-stroke is unknown. Also a great health resort. He will mail this book FREE by addressing. 7A12t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.

Cor. Nolan & Cherry Sts.,

4Atf **San Antonio, Texas.**

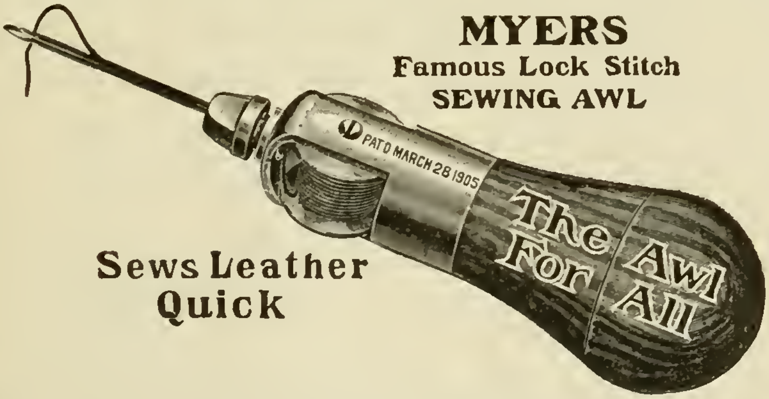
Please mention Am. Bee Journal when writing.

Myers Famous Lockstitch Sewing Awl

Is designed particularly for farmers' use, but it will be found a time-saver and money-saver in nearly every household. It is not a novelty, but a practical hand-sewing machine for repairing shoes, harness, belts, carpets, rugs, tents, awnings, canvas of all kinds, gloves, mittens, saddles, etc.; you can also tie comforts. The Awl proper is grooved to contain the thread or waxed end, and the point being diamond shape will go through the thickest of leather, green or dry, any thickness.

The "Myers Awl" can be used with either straight or curved needle, both of which come with the outfit, and veterinarians will find it indispensable for sewing up wire cuts in stock. The "Myers Lock-Stitch Sewing Awl" is a necessity for the people; can be carried in pocket or tool chest; nothing to lose, always ready to mend a rip or tear. Better than rivets because it is portable. Can be carried in mower or harvester tool-box, threshing kit, or anywhere. If you save one trip to town for mending, you are money ahead. Every farmer needs one, every man who teams needs one. It is the most practical hand-sewing machine for actual use ever devised. Put up with straight and curved needles, waxed thread, illustrated book of directions, and everything ready for use.

MYERS
Famous Lock Stitch
SEWING AWL



Sews Leather Quick

Our Special Offers of this Famous Sewing Awl.

We mail the MYERS LOCK-STITCH SEWING AWL for $1.00; or club it with the American Bee Journal for one year—both for only $1.60; or we will mail the AWL *free* as a premium for sending us only *Two New* Subscriptions to the American Bee Journal for one year, with $2.00. Surely here is an article that will be very useful in every home. Address all orders to—

George W. York & Co., **Chicago, Ill.**

The Campbell System

INSURES your crop against **DROUTH** Our experience in 1910 and 1911 has proved that good crops can be grown with less than eighteen inches of rainfall. Those who followed the **Campbell System** in 1910 had a crop in 1911.

Don't Take Any Risks for 1912

Campbell's publications explain the system.

Campbell's Scientific Farmer	**$1.00**
Campbell's Soil Culture Manual	**$2.50**
Combination Price	**$3.00**

Address,

Campbell's Soil Culture Co., Lincoln, Neb.

When you write ask about the **Campbell Correspondence School.** 8Atf

Please mention Am. Bee Journal when writing.

Sweet Clover Seed!

Sweet Clover is rapidly becoming one of the most useful things that can be grown on the farm. Its value as a honey-plant is well known to bee-keepers, but its worth as a forage-plant and also as an enricher of the soil are not so widely known. However, Sweet Clover is coming to the front very fast these days. Some years ago it was considered as a weed by those who knew no better. The former attitude of the enlightened farmer today is changing to a great respect for and appreciation of Sweet Clover, both as a food for stock and as a valuable fertilizer for poor and worn out soils.

The seed can be sown any time. From 18 to 20 pounds per acre of the unhulled seed is about the right quantity to sow.

We can ship promptly at the following prices for the white variety:

Postpaid, 1 pound for 30 cents, or 2 pounds for 50 cents. By express f. o. b. Chicago—5 pounds for 80c; 10 pounds for $1.50; 25 pounds for $3.50; 50 pounds for $6.50; or 100 pounds for $12.00.

If wanted by freight, it will be necessary to add 25 cents more for cartage to the above prices on each order.

George W. York & Company,

117 N. Jefferson St., CHICAGO, ILL.

"The Honey-Money Stories"

This is a 64-page and cover booklet, 5¾ by 8½ inches in size, and printed on enameled paper. It contains a variety of short, bright stories, mixed with facts and interesting items about honey and its use. It has 31 half-tone pictures, mostly of apiaries or apiarian scenes; also 3 bee-songs, namely: "The Hum of the Bees in the Apple-Tree Bloom," and "Buckwheat Cakes and Honey," and "The Bee-Keeper's Lullaby." It ought to be in the hands of every one not familiar with the food-value of honey. Its object is to create a larger demand for honey. It is sent postpaid for 25 cents, but we will mail a single copy as a sample for 15 cents, 5 copies for 60 cents, or 10 copies by express for $1.06. A copy with the American Bee Journal one year—both for $1.10. Send all orders to the American Bee Journal.

Queens! Queens!

200 to 300 per month. Virgin, 75c; Untested, $1.00; Tested, $1.25; Select Tested, $2.00; and Breeders, $3.00. Nuclei, Full Colonies, Bees by the Pound. Have letter from State certifying my bees are free from foul brood.

FRANK M. KEITH, 4Atf

83½ Florence St., **Worcester, Mass.**

"How to Keep Bees," —BY— A. Botsford Comstock.

A simple book, written in a clear, every-day language, is much to be preferred, even if it does not treat of quite so many little details, which interest only the professional bee-keeper. Such is "How to Keep Bees," written by a gifted author, who made a start in bee-keeping three different times, thus being afforded the opportunity of personally finding out the difficulties and trials that beset the beginner with bees. It is a book written by an amateur to amateurs, so eminently readable, that any one interested in the subject can sit down and devour it clear through, as though it were a modern novel. The print is large, and typographically as well as rhetorically, it is the peer of any such book now on the market. It is bound in cloth, and contains 228 pages.

There are 20 chapters in the book as follows:

1. Why Keep Bees?
2. How to Begin Bee-Keeping.
3. The Location and Arrangement of the Apiary
4. The Inhabitants of the Hive.
5. The Industries of the Hive.
6. The Swarming of Bees.
7. How to Keep from Keeping Too Many Bees.
8. The Hive and How to Handle It.
9. Details Concerning Honey.
10. Extracted Honey.
11. Points About Beeswax.
12. Feeding Bees.
13. How to Winter Bees.
14. Rearing and Introducing Queens.
15. Robbing in the Apiary.
16. The Enemies and Diseases of Bees.
17. The Anatomy of the Honey-Bee.
18. The Interrelation of Bees and Plants.
19. Bee-Keepers and Bee-Keeping.
20. Bee-Hunting.

There is also a bibliography and index. From a beginner's standpoint it is a complete treatise on bees, and we can not do better than recommend it. In fact, it should find a place in every bee-keeper's library.

Our Offers of this Interesting Book.

We mail this book for $1.10; or we club it with the American Bee Journal one year—both for $1.75; or, we will mail it *free* as a premium for sending us 3 new subscriptions to the American Bee Journal for one year with $3.00 to pay for the subscriptions. Address,

GEORGE W. YORK & CO., 117 No. Jefferson St., CHICAGO, Ill.

A Few Dollars Invested on Easy Terms in a

Twin Falls, Idaho, Orchard

will insure

An Income For Life

sufficient to keep a family in comfort. It will pay for a home that is not an expense, but

A Source of REVENUE

Or, for an investment which will pay from 100% to 500% every year as long as you live, and longer, after it comes into bearing.

By calling at our office, or writing us, you can obtain full information.

Twin Falls Co-operative Orchard Co.

881 Stock Exchange Bldg., Chicago, Ill.

50,000 Copies "Honey as a Health-Food" To Help Increase the Demand for Honey

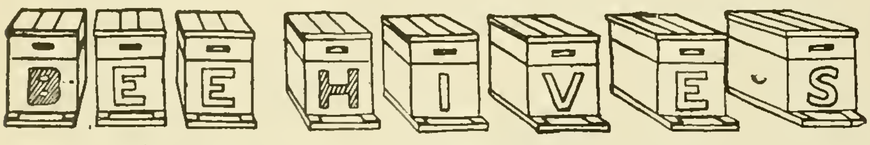
We have had printed an edition of over 50,000 copies of the 16-page pamphlet on Honey as a Health-Food." It is envelope size, and just the thing to create a local demand for honey.

The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last is devoted to "Honey Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey as a food, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp; 50 copies for 90 cents; 100 copies for $1.50; 250 copies for $3.00; 500 for $5.00; or 1000 for $9.00. Your business card printed free at the bottom of front page on all orders for 100 or more copies.

Address all orders to

GEORGE W. YORK & CO., Chicago, Ill.



Are our Specialty. Winter your bees in **Protection Hives.** Liberal early-order discounts.

A. G. Woodman Co., Grand Rapids, Mich.

Wanted

WHITE HONEY

Both COMB and EXTRACTED

Write us before disposing of your Honey Crop.

Beeswax

—WANTED—

HILDRETH & SEGELKEN,
265-267 Greenwich St.,
NEW YORK, N. Y.

Closing Out Offer

We Have Some Copies Left of the Book

"Bees and Honey"

By Thomas G. Newman

bound in cloth, that we offer cheap to close out. It contains 160 pages, and is bound in cloth. It used to be a one-dollar book, but we will mail them, so long as they last, at 50 cents each; or with the American Bee Journal one year—**both for only $1.20.** Surely this is a bargain. The book is well illustrated, and has some good information in it, especially for beginners. Address all orders to

George W. York & Co.,
146 W. Superior St., Chicago, Ill.

COST SALE

Of **BEE-KEEPERS' SUPPLIES for the next 4 months.** Too big Stock to carry over. Write your wants; I will make price to suit. Sept. 26, 1911.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Engravings for Sale.

We are accumulating quite a large stock of bee-yard engravings and other pictures used from time to time in the American Bee Journal. No doubt many of them could be used by bee-keepers in their local newspapers, on their letterheads, on souvenir cards, or in other profitable or interesting ways. If we can sell them it will help us to pay for others that we are constantly having made and using in these columns.

We do not have a catalog or printed list of the engravings, but if you will let us know just which you want we will be pleased to quote you a very low price, postpaid. Just look through the copies of the Bee Journal and make your selection. Then write to us.

GEORGE W. YORK & CO.
CHICAGO, ILL

HONEY AND BEESWAX

CHICAGO, Oct. 30.—There have been free receipts of comb honey from the Western States, and the market at present is well supplied. Prices are steady for A No. 1 to fancy at 17@18c per lb.; very little fancy—enough to bring the outside quotation; the other grades range from 1@3c per lb. less in value, the amber grades being particularly hard to move. Extracted remains steady at from 8@9c per lb. for the white, and 7@8c per lb. for amber. There is a good demand for beeswax at 32c per lb. if a good color and clean. R. A. BURNETT & CO.

CINCINNATI, Oct. 31.—The market on comb honey is good, retailing at $4.00 per case; jobbing lots $3.60 and $3.75, according to quantity. No demand for off grades or dark comb honey. Light amber, in barrels, 6½@7c; in cans, 8½c. White table honey in cans, 10@11c. Beeswax in fair demand, and is selling at $33 per 100 pounds.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

KANSAS CITY, MO., Oct. 31.—The receipts of both comb and extracted honey are more liberal, but not heavy; demand fair. We quote; No. 1 white comb, 24 sections, $3.25 to $3.35; No. 2, $3.00; No. 1 amber, $3.10@$3.25; No. 2, $2.75@$3.00; extracted, white, per lb., 9@9½c; amber, 7@9c. Beeswax, 25@28c.
C. C. CLEMONS PRODUCE CO.

DENVER, Oct. 18.—Warm weather and abundance of fruit has had a depressing influence on the local honey market, and for that matter also on the carload business. We are quoting our local market in a jobbing way as follows: No. 1 white comb, per case of 24 sections, $3.15; No. 1 light amber, $2.92, and No. 2, $2.70. White extracted, 9@10c; light amber, 8@9c; amber strained, 7½c. We are paying 25c cash, or 27c in trade, for clean yellow beeswax delivered here.
THE COLO. HONEY-PRODUCERS' ASS'N.
F. Rauchfuss, *Mgr.*

INDIANAPOLIS, Oct. 30.—The demand for white comb honey exceeds the supply. Jobbers pay 18c per lb. for fancy white, and in single-case lots sales are being made for 20@22c per lb. Extracted is more plentiful, and is being offered by jobbers at 10@11c for best quality. Beeswax is in good demand, and producers are being paid 30c per pound.
WALTER S. POUDER.

NEW YORK, Oct. 30.—The demand for comb honey is good, especially for all grades of white. Receipts, however, on account of the short crop, are rather light. We quote: Fancy white, 16@17c per lb.; No. 1, 14@15c; No. 2, 13c; mixed and buckwheat, 10@11c. Extracted is also in good demand, especially the lighter grades. We quote: California water-white at 10c per pound; white, 9@9½c; light amber, 8@8½c; white clover and basswood, 9@9½c; buckwheat, 7½c. Beeswax quiet at 30c. HILDRETH & SEGELKEN.

CINCINNATI, Oct. 30.—Comb honey is becoming rather scarce. Strictly fancy we are selling to our trade at $3.75 per case, f. o. b. our store, and it finds ready sale. Extracted honey is still coming in quite lively; amber extracted honey is selling at 6@7½c, according to the quality and quantity purchased, while strictly fancy water-white table honey is selling at 9@10c. For choice, bright yellow beeswax absolutely free from dirt, we ar paying from 28@30c per pound, delivered here. THE FRED W. MUTH CO.

Names of Bee-Keepers Wanted.—We desire very much to have the names and addresses of all the bee-keepers who are in your locality who do not now take the American Bee Journal. We would like to get every one of them on our list of regular readers. If you will send to this office the names and addresses of such bee-keepers, we will be pleased to mail each a sample copy of the American Bee Journal. Perhaps you could send in their subscriptions, and thus earn some of the various premiums that we offer from time to time for getting new subscriptions. We feel that every bee-keeper ought to read the American Bee Journal regularly. He would not only be more successful, but would be less of a competitor of his neighbor bee-keepers, if he were more enlightened on the subject of bees and honey. We would appreciate it very much if all who can do so will send us the names and addresses of their bee-keeping neighbors who do not at present receive the American Bee Journal.

HONEY HONEY HONEY

We want to buy. We want to sell

We are always in the market for Honey, both Comb and Extracted, if quality and price justify. Should you have any to offer, let us hear from you. If Extracted, mail sample, and state how it is put up, and lowest price; if Comb, state what kind, and how packed.

If in the market for Honey, write for prices.

CANS CANS CANS

We have a surplus of Second-Hand 5-Gallon Cans, two to a case, as good as New, used but once. Offer same, while they last, at 25c per case f. o. b. incinnati. Order quick, if you want any.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

Less 5 Percent Discount During NOVEMBER

"Falcon"

The Standard Bee-Keepers' Supplies

KANSAS CITY, MO.

The Freight Center of the Western States

A complete stock of "**Falcon**" hives, sections, foundation, smokers, shipping-cases, extractors, etc., is kept in stock at this centrally located house for prompt shipment at a great saving of freight. "**Falcon**" goods, hives and supplies made right, may be obtained from this point less the maximum early order discount. Write for Red Catalog and send list of 1912 requirements for quotation to C. C. Clemons Bee Supply Company, 130 Grand Avenue, Kansas City, Mo.

CHICAGO, ILL.

The Freight Center of the Middle States

Our branch, W. T. Falconer Mfg. Co., 117 North Jefferson St., Chicago, Ill., is **the only bee-supply house in the business section** of this metropolis of the States. Surrounded on every hand by freight and express depots we are pre-eminently fitted to take care of your wants, making shipment by the cheapest and most direct route to you........and there is never any charge for drayage to depot. Let us quote you less early order discount from this freight-saving center.

"**falcon**" dealers are in every State and encircle the Globe. Write for name of nearest one to you.

W. T. Falconer Mfg. Company,

"Where the Good Bee-Hives Come From"

Factory: Falconer, N. Y.

**117 North Jefferson Street,
CHICAGO, ILL.**

You Want a Home

WHERE pure water is plentiful, comes when you wish, and stays when you will;

WHERE cyclones are unknown, and blizzards impossible;

WHERE crops never fail from drouth, and the unhoused harvest is never damaged by storms;

WHERE your stock can feed and fatten on pastures that are always green; and you can work in your fields with profit and pleasure every day in the year—except Sunday;

WHERE you can grow to perfection all the pleasant fruits, and all else that can contribute to make your home a paradise;

WHERE you can raise two crops of some things (on the same ground the same season), and continuous crops of other things, giving you "a money harvest" to sell every week in the year;

WHERE "sunny days" cover two-thirds the time, and yet sunstroke or "death or damage from heat" are unknown;

WHERE bees banquet in fields of never-fading flowers, securing rich stores of honey—which they do not consume "in wintry hours;"

WHERE you can grow Figs, Olives, Oranges, Apricots, and Almonds, to perfection, and **be sure** of a large price, **as none of these** (except perhaps oranges) **are grown in commercial quantities anywhere else in the United States.**

YOU WANT A FAIRY FARM

WHERE you can (with the help of your boys) take the best care of it—thus forever ending the torturing ghost of "hired help;"

WHERE "your boys" will get rich on berry-patches, and "the women-folks" with poultry—as a by-product;

WHERE you can get more net cash every year from ten acres than can be wrested from a quarter section of the best farm land in the Mississippi Valley, and all this while escaping the lonesome isolation and dreary drudgery inseparable from the larger farming.

You want to know all about this wonderful land. You can secure full and accurate information by writing to

E. S. WEEDEN, OROVILLE, CALIF.

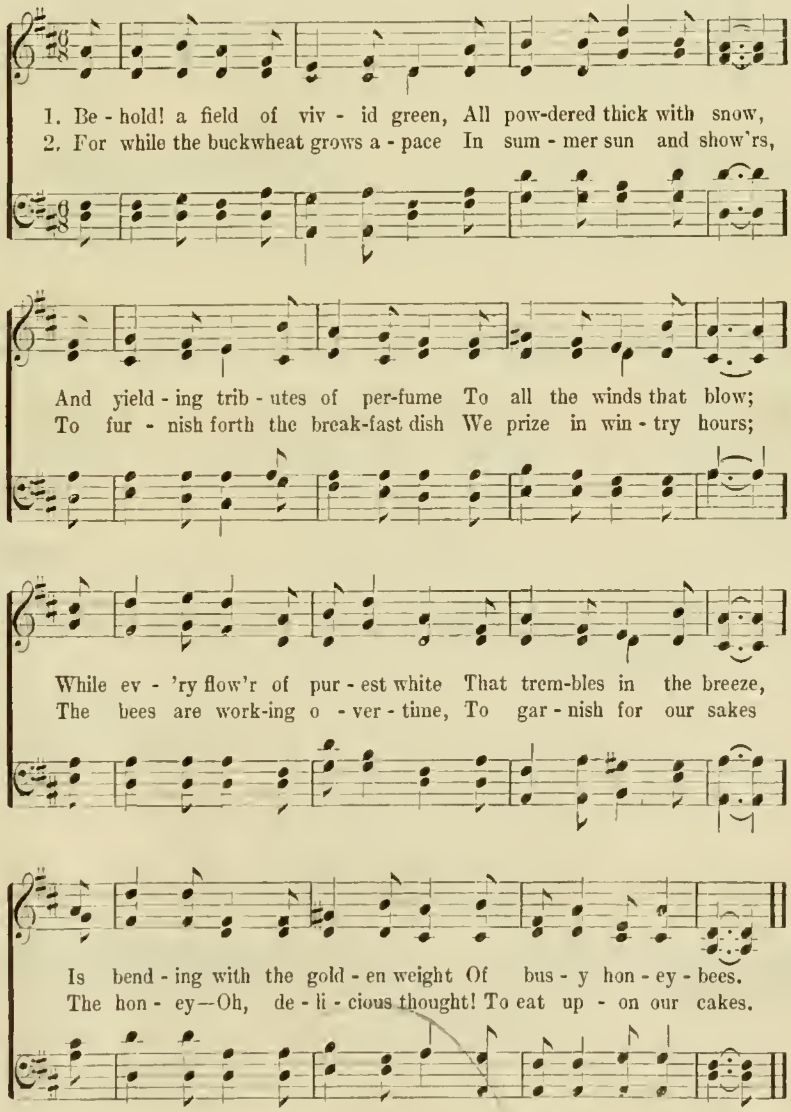
Stating you saw this advertisement in the American Bee Journal. Reference—Editor American Bee Journal.

AMERICAN BEE JOURNAL

December 1911

Buckwheat and Honey.

MINNIE IRVING. GEORGE W. YORK.


1. Be - hold! a field of viv - id green, All pow-dered thick with snow,
2. For while the buckwheat grows a - pace In sum - mer sun and show'rs,
And yield - ing trib - utes of per-fume To all the winds that blow;
To fur - nish forth the break-fast dish We prize in win - try hours;
While ev - 'ry flow'r of pur - est white That trem-bles in the breeze,
The bees are work-ing o - ver - time, To gar - nish for our sakes
Is bend - ing with the gold - en weight Of bus - y hon - ey - bees.
The hon - ey—Oh, de - li - cious thought! To eat up - on our cakes.

Mass Agl College apr16
Library Amherst, Mass

You are particular?

about the quality and workmanship of the bee-goods you buy—you have a right to be.

Years ago, when bee-supply industries were at the "Carpenter Shop" stage, you were obliged to take what you could get—Hives poorly made and roughly finished—Sections that were made incorrectly, fit wrong, and gave you trouble.

Now things are different—nowadays bee-supplies are manufactured scientifically right at the new five-acre plant of the G. B. Lewis Company.

Lewis Beeware is the result of thirty-five years of bee-supply experience. The Head Mechanic has been with this organization thirty-five years; the Superintendent of bee-hives twenty-nine years; Superintendent of sections twenty-eight years. All these years these men have been studying methods, material, machinery, and the peculiar demand of the bee-keeping public.

Does all this mean anything to you?

The Answer is simply this: Buy LEWIS BEEWARE. Insist on LEWIS BEEWARE.

The Beeware Brand is a guarantee of success insurance in bee-keeping. Don't be satisfied at this day and age with any other make of bee-supplies.

It is sold by over thirty distributing houses in the United States and foreign countries. Ask for the name of the nearest one.

G. B. Lewis Co., Manufacturers of Beeware **Watertown, Wis., U. S. A.**

Water-White
ALFALFA
HONEY

Light Amber
ALFALFA
HONEY

Light Amber
FALL
HONEY

In any size quantities, in any size packages.

If your Honey Crop is short, and you want to supply your regular trade, write to us for prices. We are sure that we can supply what you want at prices you can pay. 5 cents for a liberal sample of any kind desired.

We want your **BEESWAX** to work into

Dadant's Foundation

Or will pay Cash for it, or Exchange for Goods.

DADANT & SONS, - Hamilton, Illinois

BARNES' Foot-Power Machinery

Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter. 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES,
935 Ruby St., Rockford, Ill.

Please mention Am. Bee Journal when writing.

M. H. HUNT & SON

The best time to buy your goods is during the fall and winter months. We are making **Liberal Discounts for Early Orders,** and would like to quote you **net prices** on your needs for next season.

—BEESWAX WANTED—

LANSING, - MICHIGAN.

Please mention Am. Bee Journal when writing.

Langstroth on the Honey-Bee

Revised by Dadant. Latest Edition.

This is one of the standard books on bee-culture, and ought to be in the library of every bee-keeper. Bound in substantial cloth, and has nearly 600 pages. Revised by that large, practical bee-keeper, so well known to all beedom—Mr. C. P. Dadant. Each topic is clearly and thoroughly explained, so that by following the instructions of this book one can not fail to be wonderfully helped on the way to success with bees.

We mail the book for $1.20, or club it with the American Bee Journal for one year—both for $2.00. This is indeed a splendid chance to get a grand bee-book for a very little money.

GEORGE W. YORK & CO.
CHICAGO, ILL.

Bee-Keepers

Here is a bargain in No. 2

4¼x4¼ **1-Piece 2-Beeway Sections**

$3.25 per 1000. Plain, 25c less.

Send your order to-day. Also write for Catalog. 1Atf

AUG. LOTZ & CO.,
BOYD, WIS.

Please mention Am. Bee Journal when writing.

"Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, $1.00; or with the American Bee Journal, one year—both for $1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for $1.25. Send to the American Bee Journal

BEES AND HONEY

FIRST LESSONS IN BEE-KEEPING

NEWMAN DADANT

The above is the title of a new and revised edition of what for many years was the book called "Bees and Honey," written by the late Thomas G. Newman, editor of the American Bee Journal. Mr. C. P. Dadant, whose reputation as a honey-producer and expert bee-keeper is unquestioned, revised the book recently. The last edition consisted of 160 pages, but the revised edition, hereafter to be known as "First Lessons in Bee-Keeping," contains nearly 200 pages, and is perhaps the most generously illustrated bee-book of its size now published, as it has over 150 pictures.

"First Lessons in Bee-Keeping" is principally for beginners in the bee-business, as its name indicates. It contains the foundation principles of bee-keeping —just what every beginner ought to know in order to start right with bees. It does not pretend to cover the subject in so thorough manner as do the higher-priced and larger bee-books, such as "Langstroth on the Honey-Bee," Prof. Cook's "Bee-Keepers' Guide," etc., but there are a large number of very important preliminary principles that should be well understood by every one who intends to take up bee-keeping, and this book is just the thing for that purpose.

It is printed on excellent paper, and well bound in pamphlet style. The outside appearance of the cover of this book, is entirely different from anything yet seen on a bee-book. One can know without reading a word that it is something about bees, by simply looking at the cover, either front or back.

We intend to present a copy to any person who sends us $1.00 for a year's subscription *in advance* to the American Bee Journal, whether a new or renewal subscriber; but, of course, the booklet *must be asked for* when subscribing and sending the dollar.

The price of "First Lessons in Bee-Keeping," bound in strong paper, is 50 cents, postpaid. We would suggest that every Journal reader secure a copy of this book in connection with your own advance renewal subscription, and then show it to your neighbor bee-keepers, and get them to send in their subscription; or, if you wish to sell the book to your neighbors, we will make you a liberal discount for such purpose. But be sure to get a copy of the book yourself, so as to see what a beauty it is. Address,

George W. York & Co., 117 N. Jeff. St., Chicago, Ill.

MARSHFIELD GOODS

BEE-KEEPERS :—
We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**
Our Catalog is free for the asking.

Marshfield Mfg. Co., Marshfield, Wis.

Please mention Am. Bee Journal when writing.

AMERICAN
ESTABLISHED IN 1861
OLDEST BEE PAPER IN AMERICA
BEE JOURNAL

PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
117 N. Jefferson Street, Chicago, Ill.

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is $1.00 a year, in the United States of America (except in Chicago, where it is $1.25), and Mexico; in Canada, $1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

THE WRAPPER-LABEL DATE indicates the end of the month to which your subscription is paid. For instance, "dec11" on your label shows that it is paid to the end of December, 1911.

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Nothing less than 4 lines accepted.

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6 " 12c "   12 " (1 yr.) 10c a line

Reading Notices, 25 cents, count line.
Goes to press the 6th of each month.

National Bee-Keepers' Association.

(Organized in 1870.)

Objects.

1. To promote the interests of bee-keepers.
2. To protect and defend its members in their lawful rights as to keeping bees.
3. To enforce laws against the adulteration of honey.

Membership Dues.

One dollar a year.

Officers and Executive Committee.

President—GEORGE W. YORK, Chicago, Ill.
Vice-President—W. D. WRIGHT, Altamont, N. Y.
Secretary—E. B. TYRRELL, 230 Woodland Ave., Detroit, Mich.
Treas. and Gen. Mgr.—N. E. FRANCE, Platteville, Wis.

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Are you a member? If not, why not send the annual dues of $1.00 *at once* to Treas. France, or to the office of the American Bee Journal, 117 N. Jefferson St., Chicago, Ill.? It will be forwarded promptly to the Treasurer, and a receipt mailed to you by him. Every progressive bee-keeper should be a member of this, the greatest bee-keepers' organization in America.

Crown Bone Cutter
Hens fed cut green bone lay more eggs. Get a Crown Bone Cutter. Send to-day for catalogue.
Walson Bros., Box 614, Easton, Pa.
BEST MADE
Lowest in Price

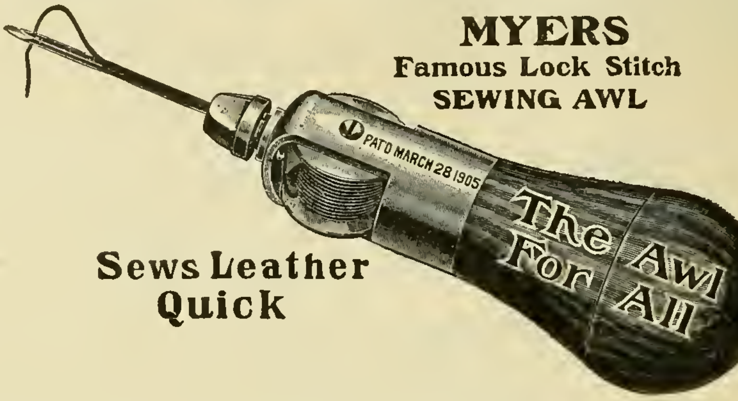
Myers Famous Lockstitch Sewing Awl

Is designed particularly for farmers' use, but it will be found a time-saver and money-saver in nearly every household. It is not a novelty, but a practical hand-sewing machine for repairing shoes, harness, belts, carpets, rugs, tents, awnings, canvas of all kinds, gloves, mittens, saddles, etc.; you can also tie comforts. The Awl proper is grooved to contain the thread or waxed end, and the point being diamond shape will go through the thickest of leather, green or dry, any thickness.

The "Myers Awl" can be used with either straight or curved needle, both of which come with the outfit, and veterinarians will find it indispensable for sewing up wire cuts in stock. The "Myers Lock-Stitch Sewing Awl" is a necessity for the people; can be carried in pocket or tool chest; nothing to lose, always ready to mend a rip or tear. Better than rivets because it is portable. Can be carried in mower or harvester tool-box, threshing kit, or anywhere. If you save one trip to town for mending, you are money ahead. Every farmer needs one, every man who teams needs one. It is the most practical hand-sewing machine for actual use ever devised. Put up with straight and curved needles, waxed thread, illustrated book of directions, and everything ready for use.

MYERS
Famous Lock Stitch
SEWING AWL

Sews Leather Quick



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We mail the MYERS LOCK-STITCH SEWING AWL for $1.00; or club it with the American Bee Journal for one year—both for only $1.60; or we will mail the AWL *free* as a premium for sending us only *Two New* Subscriptions to the American Bee Journal for one year, with $2.00. Surely here is an article that will be very useful in every home. Address all orders to—

George W. York & Co., Chicago, Ill.

Lewis Beeware, Bingham Smokers
Dadant's Foundation.
Are Any Supplies Needed by the Bee-Keeper?
BEESWAX WANTED. CATALOG FREE.
Leather-Colored and Golden Untested Italian Queens, $1.00.
The C. M. SCOTT CO., 1004 E. Wash. St., Indianapolis, Ind.
Please mention Am. Bee Journal when writing.

Bees For Sale.

I have a few lots of Bees offered to me to sell, scattered in South Georgia and Middle Florida. The most of them are well located; others can be moved a short distance in good locations. The most of the bees are in modern hives, and some good bargains in the lot. 8Atf

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The - Biggest - Discount
Of the Season on Bee-Supplies.

Send us list of goods wanted for best prices. Now Ready. Full blood pedigreed prize-winning Chickens—Barred Rocks that are BARRED; Whited Rocks and White Wyandottes that are WHITE—$1.00 each and up. Show-birds a Specialty. Cat. ready in Jan.

Catalog Free. **H. S. Duby, St. Anne, Ill.**

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Heard Over the Fence One Day

Brown—"I say, Jones, I wish you would tell me where you send your **HONEY**, you seem to get such good results."

Jones—"Sure, glad to. **THE FRED W. MUTH CO., 51 WALNUT ST., CINCINNATI, OHIO,** gets every pound I produce, and I always receive my money the day the shipments arrive. They buy my **BEESWAX**, too. And, by the way, they handle the finest **BEE-SUPPLIES** on the market—Falconer Manufacturing Co.'s make. Write them for a **Catalog**—am sure they will be glad to send you one."

AMERICAN
BEE JOURNAL
L.L. LANGSTROTH
CHAS. DADANT

(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at $1.00 a Year, by George W. York & Company, 117 North Jefferson Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., DECEMBER, 1911

Vol. LI---No. 12

EDITORIAL COMMENTS

National Association and Report

We have received a copy of the 42d Annual Report of the National Bee-Keepers' Association, which includes, besides the proceedings of the convention held at Minneapolis, Minn., Aug. 30 and 31, 1911, a complete list of the membership, the Treasurer's report, and copies of both the old and the new Constitution. It has also about 25 pages of advertising at the back. In all, there are 144 pages besides the cover. The financial statement made by the general manager and treasurer, N. E. France, shows a balance of $604.16 on hand in the Honey-Producers' League fund, and $439.70 in the general fund of the Association, but we learn privately that there is not enough money in this general fund to pay all the expenses to the end of this year.

It may be just possible that before this number of the American Bee Journal goes to press, we will have a report of the election of officers held last month (November), and also the vote on the new Constitution. All, of course, will be interested to know whether or not the new Constitution is approved, for it would mean quite a change in the way the National Association is to be conducted in the future.

If the new Constitution is voted into effect, there will be 5 Directors instead of 12, and the annual meeting will be mainly executive, those attending being delegates elected by the local branches or associations. Then those delegates who attend the annual meeting will elect the officers and directors of the Association. This will make a thoroughly representative body, and it would seem that more business can be done at the annual meetings than heretofore, for every delegate will be sent with authority to carry out the wishes of the local branch or association so far as possible.

There is progress and advancement in every line of business and association effort, and it is a good time now for the National Bee-Keepers' Association to advance a little also. Of course, it may not be possible to do all the first year that needs to be done, but if things can be started now, it may not be many months until the effect of the provisions of the new Constitution will be felt among the members of the Association. As Secretary Tyrrell well says:

> "The present fee of the National just about provides for the expenses of the National convention and getting out the Annual Report. Manager France will tell you he must economize to do that. This leaves nothing for the larger work of the organization, looking up market conditions, advising members regarding their honey-sales, assisting States in getting foul-brood laws, and many other things that might be mentioned."

In order to secure more funds with which to do more for its members, it is proposed that the National membership fee be increased to $1.50 per year. A third of this amount is to go to the local branch or association affiliating with the National. The annual dues of the Michigan Association have been for several years $1.50, and instead of its membership growing less it has increased, and the Association has prospered beyond anything known heretofore in that State. Mr. Tyrrell further says:

> "It may seem to some that this raise is a mistake, and that bee-keepers will not pay the advanced price. But we must not forget that sometimes a small fee is really more expensive than a larger one. It is not so much what we pay, *as what we get for what we pay*. If our fee is so small that the whole amount is necessary for the running expenses and nothing left for progress, that fee is apt to be expensive; while a larger one, leaving a surplus for doing something extra for the members, might be really cheaper."

But whether the new Constitution is approved or not, there will still be much that the National can do under its former Constitution. Its officiary should devise some method by which the balance of the League fund could be used to good advantage in trying to create a greater general demand for honey. Perhaps a small advertisement run in a few select magazines of large circulation might be a good thing. It would be much better, however, if the National Association were in a position to offer a standard brand of honey in response to such advertising. This, of course, opens up a very large subject, but we hope the time may come when, if the National Association is not able to handle the honey-business on a large scale, that some other organization or company will be formed that will be sufficiently strong to do something worth while along the line indicated.

Honey Used by a Colony in a Year

It is not difficult to determine just how much honey is obtained from a colony as surplus; but the larger amount that a colony appropriates to its own use is not so easy to determine. It seems rather strange that so little should be known about a matter of so much interest. Adrian Getaz says that where the winters are cold a colony needs for its annual consumption about 200 pounds of honey. In the warmer latitudes, where bees are active every month in the year, more stores are needed, and Editor Root thinks the consumption may be from 200 to 400 pounds. It would be of interest to know just how much of these estimates is based on reliable data, and how much on guessing.

The question, "How much honey does an average colony need in the course of a year for its own consumption?" is one that may be commended to our officials at Washington whenever the Government affords them enough money to meddle with any new questions, and also to the institutions of the few different States that give some attention to matters apicultural.

Questionable Advice About Bees

Some of the agricultural journals are wise enough to secure articles about bees that are reliable; but some of them are not so careful, and in the latter case the farmer who depends upon his farm paper for instruction about bees is in danger of being misled.

In Rural Life it is correctly stated

that "if the winters are extremely cold, if freezing weather prevails all through December, January, and February, it is best to cellar the bees," but there may be a question about the correctness of the further statement that for the beginner it is best to leave them outdoors.

"A fairly well populated hive to be wintered out-of-doors will need about 25 pounds of honey to carry it over, while a little more than half these stores will suffice for cellaring." Would it not be safer to add about 5 pounds to that estimate? especially as any amount not absolutely necessary would not be wasted.

We are told that for heating bee-cellars on specially cold days and nights, "many use a small coal-oil or gasolene heater." No word is said about any danger from poisoning the air with the fumes from such a heater, and the beginner who takes such a method of heating his cellar without provision for carrying off the gases may find the better temperature more than balanced by the poorer quality of the air.

New York Bee-Keepers Advertising

From Hon. W. F. Marks, Chairman Publicity Committee New York State Association Bee-Keepers' Societies, comes something that shows initiative. A pad of good writing paper has printed on the first page of its cover a queen-bee 6 inches in length, together with a queen, worker, and drone on a smaller scale. On the inside of the same cover are given interesting facts regarding the honey-bee and honey.

This method of awakening interest is to be commended. A pad of paper, whether used by school children in their work or by adults for correspondence, will remain on hand for some time. The printed matter will present itself under such conditions that it will likely be read more than once. The manufacturers of paper pads will no doubt be glad to use these printed covers for a slight consideration, and thus a little money will go a long way.

When Buckwheat Yields Nectar

It is perhaps the general belief that buckwheat yields nectar only in the forenoon. Gleanings in Bee Culture seems to dissent from this belief, and says:

> "Buckwheat yields nectar just as fast at one time of the day as another. At night it continues secreting nectar, and continues until morning. The bees rush on it as soon as it is warm enough, clean up all the nectar, and, of course, as the buckwheat can not secrete fast enough to keep them going all day, there is usually nothing doing in the field from 10 or 11 o'clock on until toward evening, and generally not until the next morning, when the buckwheat has had a chance to catch up. If, on the other hand, there is a very large acreage of buckwheat compared with the number of bees to gather the nectar from it, bees might be busy on it all day. No, the honey probably does not come any faster at night than in the daytime; but it may be secreted faster when weather conditions are favorable than when they are not."

This is such a radical departure from the common belief that it would be interesting to have testimony from those who live in buckwheat regions. Gleanings in Bee Gulture says that the bees clean up the nectar by 10 or 11 o'clock. If they stop then because the nectar is all cleaned up, and if it secretes regularly throughout the day, ought there not to be enough secreted within 2 or 3 hours to warrant the bees in going to work again? In regions where buckwheat is plenty and bees scarce, Gleanings in Bee Culture thinks "bees might be busy on it all day." But the question is, *do* they keep busy all day in such places? There must be places where buckwheat is plentier than bees. Can any one tell us whether in such places bees actually continue working on buckwheat all day? If bees are plenty and buckwheat very scarce, do the bees in such places get the nectar cleaned up earlier in the day than in other places?

This is not saying by any means that Gleanings in Bee Culture is wrong. Sometimes the popular belief is very much out of the way. Only before taking an opposite view we ought to know, you know.

Knowing Foul Brood

In a previous number of this Journal the thought was expressed that the Bee-Keepers' Review was a little severe in judgment upon those who did not recognize foul brood. Referring to this, the Bee-Keepers' Review quotes the sentence:

> "One who has never seen the disease before may be excused if he does not recognize it at first sight."

Then Editor Tyrrell goes on to say this:

> "But that's not the point, Brother York. The bee-keeper I referred to had colonies rotten with the disease, claimed he had read all about the disease, so he would be able to recognize it, and then denied having it. If I am not mistaken, Inspector Sanders found extensive bee-keepers—men who read the bee-journals, and who must have had the disease for years, either in their apiaries or around them—and yet these men denied having this disease. What was wrong? Didn't they know the disease, or didn't they want to?"

With that understanding of the matter, Mr. Tyrrell, you have permission from this office to use your most savage vocabulary to express your indignation. It would be hard to use language too severe.

Reciprocity Between Bees and Plants

On page 237, J. J. Wilder calls attention to the fact that his experience in the past few years has shown that with the increase of bees comes increase in cotton-yields as well as nectar-yields. Referring to this, A. L. McCray writes:

> "Is this not in keeping with experiments made by our agriculturists, and is it not also true that herein is applied the law of giving and receiving, the same as in the moderate expenditure of strength-energy brings greater strength, and the moderate expenditure of mind-energy brings greater mentality, and the moderate expenditure of soul-energy creates greater soul-energy, and so on throughout all Nature? As Emerson has put it, 'There is an absolute balance even to the law of give and take.'"
>
> A. L. McCRAY.

Yes, there seems to be a universal law that the proper exercise of a given power increases that power, and also that there is a mutual give and take, as Mr. McCray puts it. As Paul says: "For none of us liveth to himself." The man who thinks he can go through life without being in any way beholden to his fellow-man will have a hard time of it, and in the best sense a still harder time will any man have who thinks he can go through life without ever doing anything for his fellow-man. And this give-and-take business extends down through the lower forms of creation, the particular part of interest to bee-keepers being the mutual relation between plants and bees.

Not so much that it is important that the bee-keeper should understand this, but that the farmer should, and especially that the fruit-grower should. Too much it has been in the past, especially in some localities, that the farmer and the fruit-grower have looked with an evil eye upon the bee-keeper. That is a result of ignorance—just that. Bees can not do without plants; plants can not do without bees. Between the two there is no doubt a balance, the reciprocity is equal. But so far as the benefit to man is concerned, according to Cheshire and other good authorities, there is not an equal balance, the farmer and the fruit-grower having the best of the bargain as against the bee-keeper. In other words, the work of the bee as a fertilizer is of more importance than its work as a honey-gatherer. Of course, it is of great importance that farmers and fruit-growers should understand this, both for their own advantage and the advantage of the bee-keeper.

Selling Honey—the Best Way

Editor Tyrrell gives in the Bee-Keepers' Review some advice about selling honey, that seems to be based upon experience. In general, he thinks it better for the bee-keeper to sell direct to his customers than to sell through grocers. One reason for this is that no matter how much honey you may have sold a grocer, a competitor may any day take the trade from you by a little cutting in price, while an established trade direct to consumers is more secure.

As a package for extracted honey to be sold to the consumer, he prefers a 10-pound friction-top tin-pail, as being neither too large nor too small. Here is an interesting paragraph from his experience:

> "When I first came to Detroit, my time was fully occupied in an office, and I had no time to make a personal canvass, so I hired a high-school boy to begin a house-to-house canvass. This canvass was started the last of June, and was for deliveries to be made in August and September. You can see by this that I had the field to myself, for no one was canvassing for honey at that time. I paid this young man $5.00 per week, and he took an average of 10 orders a day. At first he carried a sample, but it did not take long to learn that was not the best plan. No matter how nice your sample looked when you started out in the morning, it soon became a mussy-looking bottle by the continual opening and sampling. So the sample was discontinued and orders were taken by verbal explanation. It would surprise many to know that when we discarded the sample the orders increased."

If you advertise in the local press, be sure, says Mr. Tyrrell, to give your telephone number. Many people will step to the 'phone and call you up who would not take the trouble to write.

MISCELLANEOUS NEWS ITEMS

Merry Christmas and Happy New Year we wish to every one of the readers of the American Bee Journal.

The Annual Index for 1911 appears in the back part of this number of the American Bee Journal. To any one who preserves his copies from month to month this index will be very valuable. It shows what a multitude of topics have been considered during this year. It requires a great deal of labor to prepare such an index, but doubtless it will be appreciated by those who have occasion to look up important matters.

The Honey Season of 1911.—For a very large number of bee-keepers it may be briefly characterized as "the worst ever." That to be considered literally, too, as the worst in their bee-keeping lifetime. It may not be far out of the way to say that the output of the bees for 1911, the world over, has not been so small in any previous year for 35 years or more. But bee-keepers—the genuine kind—are an optimistic lot, and will be looking forward to the next season hopefully. "Better luck next time."

Increase Without Natural Swarming.—In Gleanings in Bee Culture is given the plan of increase practised by G. C. Chase. Although there may be nothing specially original in it, the plan is well worth considering by those who do not wish to be troubled with natural swarming, but who do want a certain amount of increase. He says:

> I build up my colonies as fast as possible; and when they are strong in bees, and I have from 7 to 9 frames of brood, I treat each as follows:
>
> Beginning with the first colony I set the hive off the stand, replacing it with a hive filled with frames having full sheets of foundation. Then I look up the queen of the colony just taken from the stand and take the frame of brood she is on with all adhering bees, and put it into the center of the new hives, having first taken out one or two frames of foundation to make room for the easy introduction of the frame of brood, bees, and queen. After replacing the frames of foundation, I put on a queen-excluder, and set the old colony on top. Five days later I set the old (or top) hive on a new stand, and examine it for any queen-cells forming. These I at once cut out, and two days later I give them a laying queen. These colonies so divided and managed for increase, with proper feeding will, when the the harvest time comes, be ready in countless numbers to enter the field of sweets.

Sweet Clover and Farmera.—We take the following from that excellent agricultural publication, Farm and Fireside, for Nov. 11, 1911:

> SWEET CLOVER BOOMING.
>
> There seems to be a boom on in sweet clover. We were among the earliest of farm papers to call attention to the value of this long-despised cousin of alfalfa, and are glad to have our judgment verified. But booms are unsafe things, and a word of caution may well be dropped.
>
> Sweet clover is a money-maker to the farmer who can grow it successfully. But because it is a wayside weed it must not be assumed that it will grow successfully of its own accord. There is a trick to sweet-clover growing which must be learned, or failure will be met with. It has about the same feeding value as alfalfa. It will grow in localities where alfalfa fails. It prepares the way for alfalfa on the same ground. It maks good hay and furnishes good pasture. It renovates the soil. But it is not as good a a plant as alfafa for the purpose for which alfalfa is grown—that is, we don't think it is. One of these days we shall present to our readers a study of one successful sweet-clover grower's experience in making a weed into his chief pasture and hay crop.

It seems that the regular farmers are finally beginning to understand the value of sweet clover. It has always had a "hard row to hoe" in order to secure its rightful position among the various farm crops. We have contended for years that if sweet clover were really understood by farmers they would practically all be in its favor rather than against it. We will watch with interest the account of "a study of one successful sweet clover grower's experience in making a weed into his chief pasture and hay crop," as mentioned in the above clipping, which will doubtless appear later on in the Farm and Fireside.

Automatic Uncapping-Machines.—The following correction we are very glad to give a place here:

> MR. EDITOR:—In the report of the National Convention for 1911, page 101, is an incorrect statement which was either made by me through a slip of memory or was due to a misunderstanding. I am reported as saying, on the subject of the Ferguson uncapping machine, that Mr. Ferguson failed to send us one of his machines for trial, although he had offered to do so. Mr. Ferguson did send us one of the machines and it was given trial.
>
> I must say in justice to Mr. Ferguson and his machine that the reason that it did not give us entire satisfaction is, that it takes even and regular combs to do good work with his machine. Our extracting combs are all old and more or less irregular. Some of them date back to the time when there was no such thing as comb foundation in use. Whenever we happened to have a comb without waves or irregularities, we had no trouble in using the machine with speed in results.
>
> Our boys are now planning to use a less number of combs in the super—nine instead of ten—which will give greater thickness and insure more regular face to the extracting-combs. This method, which I once used, and which is used regularly by E. J. Baxter, of Nauvoo, Ill., also reduces by about 10 percent in the amount of handling, for the same weight of honey is contained in a less number of combs.
>
> As we should render to Cæsar what is Cæsar's, I feel that this correction is due to Mr. L. R. Ferguson, whose efforts in the line of progress deserve success, and who is still improving his invention. C. P. DADANT.

Honey Importationa for 1910, into the United States, are as follows: From Cuba, 48,080 gallons, amounting to $22,728; from Mexico, 39,332 gallons, amounting to $22,271; from all other countries, 16,228 gallons, amounting to $7969. This is a total of 103,604 gallons, and $52,968 in value. Surely, this is a small quantity of honey to be imported, and it should not have affected the price of native honey at all.

The Michigan Convention.—The convention of the Michigan Bee-Keepers Association will be held in Saginaw Dec. 13 and 14, 1911. The first session will begin at 1 p.m. Wednesday the 13th, and the second at 7 p.m. The third session will begin Thursday at 8:30 a.m., and the fourth at 1 p.m.

The meetings will be held in the Auditorium, centrally located, and the hotel headquarters will be the Everett House, rates $2.00 per day. Other hotels in easy access are the Wesley House, $1.25; Bancroft and Vincent, $2.50. These are all American plan. There are several good European hotels in the neighborhood, with moderate rates. Among these are the Wright and the Sherman. The program is as follows:

1. Secretary-Treasurer's Report.
2. Appointment of new Committees.
3. President E. D. Townsend's Address.
4. Adopting the Constitution.
5. Questions of Business.
6. Election of Officers.
7. The Foul Brood Fight in Michigan—Inspector G. E. Sanders.
8. What Shall be Done to Prevent the Spread of European Foul Brood?—Editor E. R. Root.
9. Foul Brood Legislation—E. M. Hunt.
10. What is the Next Best Move for the Association to Make?—Jenner E. Morse.
11. How to Run an Apiary to Control Best the Spread of Foul Brood—A. H. Guernsey.
12. Out-Apiaries—Ira D. Bartlett.
13. The Future of Michigan Bee-Keeping—E. D. Townsend.
14. Production of Comb Honey—L. S. Griggs.
15. Production of Extracted Honey—Leon C. Wheeler.
16. Honey Exhibits at Fairs—C. M. Nichols.
17. Bee-Keeping for Ladies—Mrs. S. Wilbur Frey.
18. Resolutions.
19. Question-Box.

Prizes will be offered for the best 10 sections of comb honey, the best 10 jars of extracted honey, the best 3 sections of white comb honey, and the cleanest sample of 10 pounds of beeswax. E. B. TYRRELL, *Sec.*
230 Woodland Ave., Detroit, Mich.

"No Time to Read Bee-Papers."—One of our subscribers from North Carolina recently discontinued his subscription to the American Bee Journal with these few words:

> "I have not the time to read bee-papers. Bees did fairly well this year."

We dare say that very few beginners in bee-keeping will ever make a success with bees until they just *take* time to read the bee-papers. The fact is, they can not afford to go blunderingly along without the information that any one of the bee-papers contains.

Not to take time to read the bee-papers is certainly very unwise. How foolish it is for any one to attempt in these days of competition in all lines, to get along without knowing all they can about the experience of others. The bee-books and bee-papers contain the results of many years of experience of the most successful bee-keepers in this country. There is no need of any one *now* forcing himself to go through many of the experiments that others have made and found useless. By reading the bee-books and bee-papers any one who wishes to begin with bees can commence at the point where the successful ones have arrived, without going through the discouraging years that they had to pass through before they could learn what proved to be best and what was unwise.

Leaving the American Bee Journal entirely out of the question, we are free to say that the bee-keeping beginner who can not discover *many times* the value of the subscription price in the contents of any bee-paper, is certainly lacking in education, to say the least. All three of the bee-papers of this country can be had for the small sum of $2.50 for the whole year. Very often just *one* item or article in any one of the bee-papers is worth the subscription for many years to the bee-keeper who is bright enough to "catch on" and put the information into use.

As to not having time to read the bee-papers, that is simply an excuse, and a very poor one. It would be better to cut out some other reading, or something else, in order that the bee-keeper who wishes to make a success of his bees will have *time* to read his bee-papers. We dare say that it would not take over 6 hours to read the best parts of all the bee-papers of this country every month; dividing that among the days of the month, it would be only about 1½ hours per week, or only 15 minutes per day! We should think it would pay, if there were no other way, to sleep 15 minutes less each night rather than go without the helpful information contained in the bee-papers.

The whole thing simmers down simply to whether the subscriber to any paper really desires to do something worth while with his bees. If he does, he will always find plenty of time to read the bee-papers, for this is really a part of the business; and, of course, he will want to keep in touch with others in the same line of work, so as to keep up with the times, and learn everything he can in order to be abreast of the rapid progress and development in the production and sale of honey.

We wish we were able to get all the bee-keepers of this country to see what they are missing by not taking at least *one* bee-paper, and reading it carefully. There are *so many* good things that are published nowadays, which would help make the keeping of bees more successful, that it seems too bad that there are not a hundred times as many bee-keepers as there are today who see the value of reading what is published on bees and bee-keeping.

Of course, if the bee-keepers *will not take the time* to read the bee-papers, there is no use in subscribing for them. They are published for the benefit of those who desire to succeed with bees.

It no doubt will be said by some who read this, that we naturally would be prejudiced in favor of the bee-papers, as we publish one ourselves. But we certainly would say exactly what we have said were we not publishers of a bee-paper, for we believe that it is absolutely true; and were we now devoting our whole time to the keeping of bees, *we* certainly would want *all* the bee-papers that are published on this continent; for we would want to keep up with the procession, and take advantage of the experiences of others, and not spend our time in going over the same road that others have gone over and perhaps found unsuccessful. We would want to make the largest success possible of our bee-keeping, and we know this could not be done without keeping informed in every possible way. We would want to know the *latest* methods in bee-management, and also in the disposal of the honey crop.

There are many bee-keepers who are getting much more out of their bees through the more profitable sale of their honey, and many of these describe their methods in the bee-papers so that others may be profited thereby. Just think what it would mean if only *one cent per pound more* could be secured for a crop of honey, through reading how some other bee-keeper was able to sell his honey? One cent per pound on a crop of only 1000 pounds would be $10, and that would pay for one of the bee-papers for 10 years. And that is only *one* of the ways in which a bee-keeper may profit by reading the bee-papers.

We would like to invite those of our subscribers who think it worth while to read the bee-papers, and have really been profited thereby, to let us hear in what particular way the bee-papers have helped them. We may not be able to publish all the responses to this invitation, but we would hope to use at least a few of them; and if we are wrong in what we have written, we will be very glad to be corrected. We believe, however, that there are thousands upon thousands of bee-keepers today who could really attribute much of their success to what they have learned in the bee-papers. How about it, you who value your bee-papers?

◆

"In Everything Give Thanks."—Not long ago an Ohio correspondent began a question by saying:

> Yesterday our preacher spoke from the text, "In Everything Give Thanks." As my bees have not stored any surplus honey this season, and it has been very dry, so that even the farm crops are going to be short, I was wondering while listening to the sermon, just how bee-keepers in my condition could "give thanks."

The reading of these lines inspired a Missouri bee-keeper to reply in the following thankful strain:

Why am I thankful? Why, for lots of things;
For my home and my bees in the Ozark hills;
For the woods and the valleys, and beautiful springs,
For the climate, the breezes, and weather which thrills—
"In everything give thanks."

Why should I be thankful? Because I don't live
Where drouth and hot weather so often do give
The bee-keeper and bees so very much pain,
As in Ohio, or Iowa, Illinois or Maine;
But live just here where with might and with main
We're working for pleasure as well as for gain—
"In everything give thanks."

Why do I give thanks? Why, for many a reason;
The sunshine and rain which make a fine season;
For fruit-bloom and wild flowers; for the hills which they cover,
For the good crop of honey, for the valleys of clover;
For mild winters and springtime; for—oh, happiness and health,
For all which we need except very much wealth—
"For everything give thanks."

(*With apologies.*) N. T. Green.

◆

Honey-Plants of California.—Texas, Nebraska, Massachusetts, Arizona, Oklahoma, and North Carolina have lists of their honey-producing flora, and now California makes the seventh State of the kind, having Bulletin No. 217 under the title of "Honey-Plants of California; by C. M. Richter." Scattered throughout its 65 pages are 14 illustrations, each giving from 1 to 8 different plants. Some of these are excellent, while some are too indistinct to be of value.

The State is divided into 11 districts:

1. The Southern Coast Range, in which the black sage is the principal honey-plant.
2. Imperial Valley, with alfalfa its main honey source.
3. Plateau Region.
4. Santa Catalina Island.
5. Owens Valley, with alfalfa beginning the middle of May and lasting well through September.
6. Foothills of the Sierras.
7. Central Valley, with alfalfa for its mainstay.
8. Middle Coast, whose season proper does not begin till June, with wild alfalfa, bastard sage, and wild buckwheat.
9. San Francisco and Bay Counties.
10. Northern Valley.
11. Klamath, in which white sweet clover is rapidly spreading.

A table of 59 honey-plants that yield a surplus in an average season gives their blooming period and the district in which they are found. Some are found in only a single district, and one, willow, is found in 9 districts. The blooming period is from January to November, inclusive.

Then follows a second group, containing plants that occasionally yield a surplus, with a third group of honey-plants not known to yield a surplus.

A list of plants botanically arranged occupies 44 pages, in which more or less specific information is given about each plant, followed by a full index.

To any one interested in the honey-plants of California, this bulletin can not fail to be of much interest.

◆

Bee-Keeping a Trade or Profession?—President Hadley, of Yale University, says in the Youth's Companion:

> Any business, however scientific, which a man does primarily for the sake of the money that he can get out of it is a trade. Any business, however simple in its character, where a man thinks first of the work that he is doing and only secondarily of the pay that he is going to get for it, deserves the name of a profession.

According to that view, certainly in a large number of cases bee-keeping should be considered a profession.

◆

Wonderful Creation—the Honey-Bee.—Without saying where he got it, D. M. Macdonald gives in the British Bee Journal a somewhat remarkable quotation. In spite of the slip the writer makes when he assumes that "glue for his carpentry" is elaborated from "sweets," one can hardly read it without having an increased respect for the little honey-maker and its Creator. Here is the quotation:

> "The bee is itself one of the most wonderful proofs of the goodness and power of God. That within so small a body should

be contained apparatus for converting the 'virtuous sweets' which it collects into one kind of nourishment for itself, another for the common brood, a third for the royal princesses, glue for its carpentry, wax for its honey-comb cells, poison subtle for its enemies, honey for its master, with a proboscis almost as long as the body itself, microscopic in its several parts, telescopic in its mode of action, with a sting so infinitely sharp that, were it magnified by the same glass which makes a needle's point seem a quarter of an inch, it would yet be invisible, and this, too, a hollow tube; that all these varied operations and contrivances should be enclosed within half an inch of length and two grains of matter, while in the same 'small room' the 'large heart' of at least 30 distinct instincts is contained, is surely enough to crush all thoughts of atheism and materialism, without calling in the aid of 12 heavy volumes of 'Bridgewater Treatises.'"

◆

Beeswax Importations for 1910 were as follows:

	Pounds.	*Dollars.*
British India	27,924	7,817
Cuba	501,533	147,489
France	773	193
Germany	159,324	50,129
Haiti	37,744	10,582
Italy	71,641	21,438
Mexico	37,900	8,063
Netherlands	21,183	6,581
Santo Domingo	83,273	21,586
Other countries	30,850	0,027
Total	972,145	282,905

The above amount is not far from 1,000,000 pounds of beeswax, and, in value, a little over a quarter of a million dollars, which would make it about 30 cents per pound. It seems that it might be a good thing if bee-keepers in this country would pay a little more attention to the production of beeswax, and thus supply the demand themselves here in the United States.

◆

The Illinois State Convention met at Springfield, Nov. 23 and 34—last month It was fairly well attended, and was a good meeting throughout. The proceedings will be published in book form early next year, when each of the over 300 members of the Association will receive a copy. It will also contain a full report of the Chicago-Northwestern convention which met in Chicago the 6th and 7th of this month.

The officers of the Illinois State Association for the ensuing year are: President, C. P. Dadant, of Hamilton; 1st Vice-President, E. J. Baxter, of Nauvoo; 2d Vice-President, J. E. Pyles, of Putnam; 3d Vice-President, W. B. Moore, of Altona; 4th Vice-President, A. Coppin, of Wenona; 5th Vice-President, Louis Werner, of Edwardsville; Secretary, Jas. A. Stone, Rt. 4, Springfield; and Treasurer, Chas. Becker, of Pleasant Plains.

◆

The Missouri Convention.—The officers elected at the annual meeting of the Missouri State Bee-Keepers' Association, held at Electric Park, Kansas City, Mo., Sept. 26 and 27, 1911, were as follows: President, J. W. Rouse, of Mexico, Mo.; Vice-President, Irving E. Long, of Marceline; and Secretary-Treasurer, J. F. Diemer, of Liberty, Mo.

Members who are in arrears can send dues to the secretary. Missouri bee-keepers who are not members should join the association for their own good. One dollar pays for membership in both State and National associations.

J. F. Diemer, *Sec.*

The Colorado Convention.—The Colorado State Bee-Keepers' Association will hold its convention Dec. 12 and 13, 1911, at the Auditorium Hotel, 14th and Stout Sts., Denver, Colo. There will be a rate of one fare for the round trip, good from Dec. 8 to 15. (The American National Live Stock Association meets at the same dates, so those interested may attend both conventions.) There will be sessions devoted to freight-rates, foul brood, grading honey, selling, etc. This convention will be one of discussion rather than set speeches or papers prepared in advance. The Auditorium Hotel has placed its Convention Hall, seating 175, at our disposal.

Wesley Foster, *Sec.*
Boulder, Colo.

◆

The Chicago-Northwestern Convention for this year is held too near the date of mailing this number of the American Bee Journal for us to say anything about the meeting. Next month we expect to report on it at least briefly. It was expected that a number of prominent bee-keepers of the central part of this country would be in attendance, which of itself would insure a good meeting.

◆

New Jersey Convention.—The annual meeting of the New Jersey State Bee-Keepers' Association will be held in the State Capitol Building, at Trenton, N. J., Saturday, Dec. 23, 1911. The morning session at 10 a.m. will be devoted to the annual reports of officers, election of officers, and other business. We hope to have a large attendance of progressive bee-keepers from other States as well as New Jersey. This being the first year of apiary inspection work in this State, we expect an interesting report from our State inspector. A fuller program will be sent on application to the secretary, A. G. Hann, of of Pittstown, N. J.

J. H. M. Cook, *Pres.*

◆

"The A B C of Potato Culture" is the name of a book of nearly 400 pages, with 40 illustrations, and devoted entirely to the growing of potatoes. It is written by T. B. Terry and A. I. Root, and tells how to grow successfully one of the greatest money-making crops. In fact, a careful study of this potato-book will help you in growing almost *any kind* of farm crop. Every farmer, whether large or small, ought to have a copy of it. The postpaid price of this book, bound in paper, is 57 cents; bound in cloth, 85 cents. We club the paper-bound edition with the American Bee Journal for one year—both for $1.40; or the cloth-bound book with the American Bee Journal one year—both for $1.60. Address all orders to the office of the American Bee Journal.

BEE-KEEPING FOR WOMEN

Conducted by Miss Emma M. Wilson, Marengo, Ill.

Wintering Weak Colonies of Bees

Every fall when the time came to begin to get bees ready for winter, it was my practise to examine all the hives in order to determine if they had sufficient winter stores and were strong enough in bees to go through the winter. If I found a weak colony it was united with some other weak one or with a near-by hive, as advised in my bee-books and journals.

But now I no longer follow the old guide-posts in this respect so closely. Indeed, I united a few weak colonies. If I have any I try to winter them, for I think queens too valuable to lose, as one surely would be, if united with another colony.

The fact that a colony is weak or does not come up to the average either in the amount of brood reared or honey produced, is not always a sign that the bees are inferior, or that the queen is a poor one. There are many agencies at work to hamper a weak colony or nucleus, and retard its growth. The weakness may be due to a dearth of honey or pollen at a critical time, or to a scarcity of nurse-bees or insufficient bees to cover brood and eggs; or, there may be too much ventilation, a draft through the hive, mice, ants, or something else may have prevented normal growth and development.

Another season may find the harmful influence, whatever it was, removed, and the colony often becomes strong and prosperous, storing a large amount of honey, and may even be the best in the yard.

One season is not sufficient to determine the value of a queen. Of course, if we know her to be an old queen that has done poorly the season before, it would be best to destroy her and unite her bees to some other colony. Also, If the weak colony has a small, dark and runty-looking queen she should be destroyed. But I think it pays to keep all colonies having young, vigorous-looking queens even if they are weak. I would give such queens another chance the next season. They're very apt to "make good."

I consider all weak colonies having young queens as nuclei, and prepare them for wintering in one of three ways, using the one which seems most convenient. If it is fairly strong, though not strong enough to winter alone, I place it on the nearest hive with its entrance turned in the opposite direction from the lower one. A good many bees will not find their new entrance now, and will join the lower colony, thus making the weak colony still weaker; therefore, I reduce the entrance so that only one or two bees can pass at a time, and remove all but two or three of the heaviest frames, placing division-boards at each side and filling the empty space with planer shavings.

But if very weak I raise up the hive by putting an empty body or box under it. Then, at my next visit the bees have become accustomed to their elevated entrance, and can be put on top of their neighbor colony. In this case I do not change the location of the entrance.

If I have 2 weak colonies or nuclei close together, I crowd them into a single hive-body with a tight fitting division-board between them, cutting off all communication both above and below the frames. Or, if the weak colonies or nuclei are too strong to crowd into one body, I shove one of them backward on its bottom-board until there is an opening in the back. Then I place an excluder on it and put the brood-chamber with the bees to be united on top of this. Now I fasten all the parts—cover, two brood-chambers and bottom-board together with crate-staples, so they can not move or come apart, and then tip the whole thing on end backwards so that the opening at the back now becomes the hive-entrance, and close up their former entrance with grass or a piece of lath.

The object in tipping the hive on end is to enable the queen from the lower chamber to accompany the bees when they go above as cold weather comes on. Unless this is done she will perish, as she can not pass through the excluder.

The nuclei, whose entrances are opposite to that of the lower hive, will probably build up into strong colonies in the spring Of course, additional frames with honey must be given to supply the queen with combs and with honey for the brood. But when the upper entrance is in the same direction as the lower one, the colonies do not become very strong, as too many bees enter the lower hives.

Weak colonies or nuclei will nearly always winter well when arranged in this way. However, I must remark that my hives are quite close together, in long rows. If they were farther apart, or placed about irregularly, it might not work so well.

Cassville, Wis. MATHILDE CANDLER.

The foregoing is taken from the Bee-Keepers' Review. The plan of wintering 2 colonies in one hive certainly has its advantages. Reference to page 298, of "Fifty Years Among the Bees," will show how it was used in this locality when 10-frame hives were in use, where full particulars are given. The plan might have been followed until the present time had there not been a change to smaller hives—a change that may not have been on all accounts the wisest. When these double hives were in the cellar in winter, it was a pleasant thing to look in the entrance and see the bees hanging below the bottom-bars, forming a single cluster with the thin division-board in the center of the cluster. There was really all the advantage of a single colony equaling in strength the combined strength of the 2 colonies, with the advantage that at the proper time they could again be made 2 colonies entirely separate.

Removing a Swarm from a Curious Location

The following from the British Bee Journal is a good illustration of the resourcefulness of a woman in an unusual situation:

> A message came to the college on the evening of May 16th, asking if any student could come and give assistance as a swarm of bees was in the grounds of the Farningham Boys' Homes. No one there knew anything about bees, and they wished to obtain the swarm. It was then too late to do anything, so we promised to go over next morning.
>
> We arrived on bicycles with veils, smoker, carbolic cloth, etc., at 8:30 a.m., to find a crowd of excited people gazing up at a tall street lamp-post, the top of which was swathed in muslin. Inside was a small cluster of bees, but the majority had gone down a tiny hole around the gas-jet, right into the standard. We first obtained a ladder, and tied a half-peck basket around the top of the lamp, keeping the light out with coats, etc., and put syrup inside to entice the bees up, but all to no purpose, and as we were in a hurry to return to the college, something had to be done quickly.
>
> Pickaxes were procured, and the bottom of the lamp-post was undermined. The bees began to pour out, and we hoped they would continue to run through into a peck basket we put there; presently they ceased to move and were not affected by drumming the sides of the standard.
>
> A plumber was then fetched to bore a hole in the middle of the shaft for us; a good stream of bees came through it, settling around the top of the lamp; meanwhile we kept a sharp lookout for the queen; suddenly one of my fellow-students saw her run out on the ground, and caught her. We put her in a match-box inside the basket at the top of the lamp, and the bees began to collect there. Meanwhile, we loosened the gas-pipe inside the standard, and drew it carefully up. Pieces of comb were already built around it, showing that the bees intended to make this their future home, and hundreds of them were clinging to the side.
>
> Looking down the standard, we saw it was still lined with bees. We got a long rubber tube, and put it up the standard and smoked through it, but this only seemed to stupefy the bees, and not to stir them. There seemed to be no way of moving them, when a brilliant idea occurred to us. We took a long string, which we weighted at one end, and dropped it through the hole at the top of the standard. When it came out at the bottom, we tied a carbolic cloth on to the end and drew it slowly up. This was most effectual, and in a short time all the bees were up in the basket.
>
> In the meantime, we thought it best to release the queen into the basket. This we did, and sprayed the flying bees with water, which caused them to settle. We next arranged a hive in a suitable corner of the garden; as we could not stay longer it was necessary to hive the bees at once, in spite of its not being a good time to carry out this operation. We shaded the hive with an umbrella, and when all was ready, threw the bees in front, putting some handfuls close to the entrance, and syringing water around to keep them from flying. The rest of the bees began to pour in as fast as they could, until nearly all were in. We then noticed they were very unsettled and excited. On inspecting the last cluster of bees, what was our dismay to find the queen in the center half-dead, whether from injury caused by her subjects or by oursIves, we do not know. Our only hope was to put her in as she was and secure the bees with muslin over the entrance of the hive.
>
> We enquired if there were any bee-keepers near, but could not hear of one nearer than 4 miles. The wagonette was hurriedly gotten ready, and off we drove. The cottage owner was most willing to help, and allowed us to overhaul his single hive, and take what we liked. The colony was very strong and healthy, so we took a good frame of eggs. This we wrapped in flannel and drove triumphantly back, and put it in the new hive. We then collected a few more bees which had gathered around the lamp, hived them successfully, put a feeder full of syrup on and left the bees humming contentedly, and already forming chains across the frames and fanning at the entrance. We hope they will rear a new queen, and do well.

That woman's college seems to be doing good work.

Moth-Worms Driving Out Colonies

> I have several colonies of bees, or had several, and the moths have driven some of them out of their hives. What is there I can do for them? I love to work with bees, and in my early life used to make quite a study of it, but later years my home duties have been such that I could not see to them. I would like to get honey enough for our own use. I think Kansas would be an ideal place for bees. MRS. W. R. T.
>
> Kansas.

It is a mistake to think that moths have driven out the bees. A good, strong colony of bees will always keep the moths at bay, especially if there be more or less Italian blood in them. But if, for any reason, a colony dies out, or becomes very weak and inefficient, then the moth will have chance to take possession; only, however, after the colony is dead or of little value. Often it is because the colony has become queenless, and after a colony has become queenless, with no young brood present from which it can rear a queen, then you may be sure that sooner or later the moths will take possession, and in course of time use up all the combs in the hive. So you see it is a matter of prevention rather than of cure; and the method of prevention is to keep all colonies strong, with a good laying queen, and preferably of Italian stock.

In a case, however, where few of the moth-worms are present, it may be worth while to help the colony a little at cleaning up. Taking out a comb you will see where the worm is by the silken web it has spun, running along the surface of the comb. With a pin or a wire nail, dig into its burrow at one end. Now start at the other end and dig upon the burrow as you go until the worm comes out, when you can kill it. In the wormy combs that have no bees on them, you can kill the worms by squirting gasolene on them from a little oil-can, or you can treat them with bisulphide of carbon.

Good Time to "Hang Onto Bees"

> The long, cold winter of 1910 almost put an end to my apiary. Only 2 colonies managed to live through until summer, and I was completely discouraged. June 21, 1911, I sat down with pen in hand to bid our kind editor, Miss Wilson, and readers of the American Bee Journal, a sad farewell. I was chewing the end of my penholder, studying how to word my farewell, when "John" came rushing into the house with the news that the bees were swarming. The farewell letter was forgotten, and I soon had a swarm of about a half bushel of bees safe in their new home without any help or thanks to "John."
>
> It is too hot and dry here for the bees to yield much profit, and should we have a few more winters like the winter of 1910, bees will be a rare thing here in this township of Mesopotamia. The assessor for 1910 found only 5 colonies of bees. The rest had al winter-killed. IMA.
>
> Geauga Co., Ohio, July 10.

Are you exactly just to "John" when you say "without any help or thanks to "John?" What would have become of those bees, while you sat mooning over your letter, had it not been for the same helpful "John?"

If most of the bees in the township are gone, now is the golden opportunity for those that keep their courage up, and take the very best possible care of their bees. They may soon reap a rich harvest. It surely is no time to bid farewell to bees.

CANADIAN BEEDOM

Conducted by J. L. BYER, Mt. Joy, Ontario.

The Ontario Convention

The Ontario Bee-Keepers' Association met in convention in Toronto, Nov. 15, 16 and 17, 1911, according to schedule, President Craig occupying the chair. The attendance was good throughout all the meetings, and the program was carried out fully, to an appreciative audience, who gave the best attention possible to the various addresses and the discussion that followed.

CO-OPERATION AMONG BEE-KEEPERS.

Three splendid addresses were given along the lines of co-operation, by Messrs. Thompson, of St. Catharines, Keen of Brantford, and Secretary Tyrrell of Detroit. While there is no doubt that the subject of co-operation is "in the air," as one speaker expressed it, yet the fact was made quite apparent during the meetings, that the bee-keepers of Ontario are not enough interested as yet in the subject to make co-operation a success. The fact is, that they can sell their honey too easily at a good price at present to be sufficiently interested to take up the subject of co-operation with enough enthusiasm to carry the scheme to a successful issue.

During the three addresses referred to, the fact was made plain that in all cases where co-operation had proven a success, the members of the society, no matter what interest they represented, "had been driven to do something by the ruinous prices they were receiving for their products." While it may be poor logic to reason that bee-keepers will have to "get in the hole" before they try to get out, yet the fact remains that bee-keepers are much the same class of people as are the representatives of other industries, and I venture to predict that nothing radical will be done along the lines of co-operation until honey is harder to sell, and the price is lower than is the case today. At any rate, the addresses we listened to were of a highly educative nature, and whether or not co-operation among the bee-keepers of Ontario will be a reality in the near future, the fact remains that all who were privileged to be present will have a better idea of what the word means than was the case before they attended the convention just over.

Foul Brood and Its Treatment.

Naturally the subject of foul brood received due attention by those present, and about two whole sessions were taken up in discussion as to the best ways and means of combatting the plague. Reports were received from the various inspectors of the Province, and in addition the convention was fortunate in having present with them Mr. Charles Stewart, one of the inspectors of New York State. Mr. Stewart, in his address, dwelt mainly on the treatment of European foul brood, and showed that he had without a doubt enough experience with this disease to be looked upon as an expert in that line of work. He can talk at a convention all right, and when it comes to entertaining when the convention is not in session—well, all who have met him will know from experience that he is able to carry out his part of the program all right.

Apiculture and the Government.

Dr. Phillips, of Washington, D. C., was on the program three different times, and I believe when I say that if he had been on twice as often as that, none of us would have been tired, it would be no exaggeration. He has certainly "made good" in his chosen work, and the bee-keepers of the United States have reason to be thankful that they have such an able representative. In this respect it is worthy of note that the industry is receiving greater attention from year to year in both Canada and the United States, and in our own case we have a hard-working and faithful representative in Mr. Morley Pettit, our Provincial Apiarist.

"Pleasures of Bee-Keeping."

Miss Ethel Robson gave a splendid address on the subject, "The Pleasures of Bee-Keeping." Miss Bobson can always talk entertainingly, and in this case she excelled herself to the delight of all present, who heartly applauded her at the close of the address. At a later date I hope to give the address in full to the readers of the American Bee Journal. Merely to comment on what was said, would be useless when I have, as intimated, hopes of presenting the full address at a later date.

An Entertaining, Helpful Address.

Another pleasing feature of the convention was an address by C. C. James, Deputy Minister of Agriculture for Ontario. Mr. James has the name of being the hardest working official in the Government, and that he does not do it all merely for money, was shown very plainly when he recently received a much higher offer to go to another country. He touched upon the methods of agriculture in vogue, and urged strongly for a greater educational campaign in all the lines of agriculture, bee-keeping not excepted. Dwelling upon the problems of the producer in butting against the middlemen, etc., he pointed out that he represented another great class, namely, the consumer, who was often held at the mercy of dealers even to a greater extent than the producer. Many lines of produce could be delivered to the consumer cheaper than at present, while at the same time the producer would receive as much or more than is the case now, if only some better plans of bringing the two classes together could be brought about.

Early in his address, the speaker humorously referred to the fact, that although he had not for years addressed the bee-keepers, yet if he had been placed in the hall with no knowledge of the nature of the gathering, he could have soon told who were there, by reason of the fact that his old friend, "Foul Brood," was in evidence so much, the same as ever. He asked what we would do if foul brood was ever eradicated, as appeared to be the hope of all bee-keepers, and he wondered how we could hold a convention without having this popular theme for discussion !

Business End of Bee-Keeping.

While I have said that the convention was a success, yet the fact remains that many thought that the business-end of bee-keeping received a little too much attention, and that things would have been livelier if some of the old-time discussions had been indulged in. Personally, I have been agitating for the elimination of all topics that bear upon management, etc., yet I am bound to admit that there is a possibility of over-doing the matter, and I honestly believe that with attention given to the matters which the extensive bee-keeper may regard as minor details, the attendance at our conventions would drop off instead of increase.

Officers for the next year are as follows: President, Denis Nolan, of Newton Robinson, Ont.; 1st Vice-President, J. L. Byer; 2d Vice-President, Miss Ethel Robson, of Ilderton, Ont.; and Sec-Treas., P. W. Hodgetts, Parliament Buildings, Toronto.

Treating Foul Brood

I want to sanction most heartily what Dr. Bohrer says on page 300, about curing foul brood, when he advises taking diseased colonies away from the apiary a mile or so before treating them. Often I have come across cases where a few diseased colonies, scattered through a large apiary, had been shaken on frames of comb foundation right on the stands. As a result, many other colonies would be infected by having the loaded bees from the diseased colonies entering adjacent hives.

By the way, Dr. Bohrer's article smacks of experience, and I judge he has been having a real experience with foul brood. No one writing from a theoretical standpoint alone could give as pointed advice as does the article referred to, and any one having to contend with the disease can read all he has said with profit.

She's a Good "Bee-Smoker Woman"

Of course it is understood by all readers, that Editor York puts all the headings to the different items in the departments of the Bee Journal. In this connection I might warn him that he has gotten into serious trouble by calling a certain Canadian of the feminine persuasion a "good smoker-woman." What he is threatened with would not do for me to tell, for fear I might become the scapegoat, but as a matter of fairness, I could not resist telling him his danger, as "forewarned is forearmed," according to the old saying.

The one whose wrath has been aroused can not even bear the smell of tobacco-smoke, and to think of the awful possibility of a careless reader glancing at the heading in question and picturing her in the house with a clay pipe in her mouth—well, it is no wonder she can not do the subject justice when I remind her occasionally of being a "smoker-woman." — [Thank you, Mr. Byer, for that warning. Of course, we should have written it "*Bee*-Smoker Woman." We take it all back, and will promise to stay away from Canada until—well, the next time we can go over there. We wish to say, however, that we have a most cordial and wholesome respect for Mrs. Byer. Any woman that can uncap 30,000 pounds of honey in one season, and bring up a large and lovely family (including Mr. Byer)—well, she is simply all right, and we take off our hat to her, every time. Now, when all the "smoke" has cleared away, it will be found that there exists the most pleasant feelings of reciprocity among the Byer family on that side, and ye editor on this side, even if such reciprocity has not come to a vote as a certain other reciprocity did, and was defeated. —Editor.]

SOUTHERN BEEDOM~

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Among the Bees in 1911 and 1912

Another year of toil is almost completed, and as we look back over the work that was done, we feel that there are a great many things that have been learned during the year that are valuable for future work. We also find that we have made mistakes here and there, and succeded beyond our expectations, perhaps, in other things. All this helps to make us better bee-keepers if we but notice these things, and pay attention to them whenever occasion presents itself at any time later. It is in this way we learn to improve ourselves and our work that we do, and our attention to these details makes for us either our failures or our successes, as the case may be.

With some bee-keepers the past year has been a successful one, and they may truly rejoice over their good fortune. Others may not have been as fortunate, but there are still many things that one may be thankful for. "It might have been worse," are just a few words that have encouraged the writer many times when misfortune stared him in the face, and many times that has been his lot. Therefore, I am writing these words of encouragement for those that may need them. I hope they are few. It is well to remember that although our crop may be short, or we may be otherwise disappointed in our year's work or business transactions, our good health and otherwise well-being are possessions that are worth more than all the money that we might have made, and which would not have been of much enjoyment to us if we did not enjoy our good health. Since the writer has experienced such misfortunes a few times, he realizes to the fullest extent how thankful we ought to be, therefore, for possessing at least these good things that are so much to us.

But the year 1911 is almost gone, and we are already planning what we will do for 1912. The bee-keeper is "a funny creature in that he keeps on living in hope even if he dies in despair," and therefore we will begin again with renewed hope to reap a bountiful reward during the coming year. Thus stimulated we are prepared to win the battle, while we could not attempt to win unprepared. The results will be in favor of the one that goes into it with renewed hopes, with his sleeves rolled up and his mind and body full of energy and determination to accomplish something if the chances are for something to be accomplished at all.

And it is well to begin our plans early. "The early bird catches the worm," is but another saying that the writer has kept uppermost in his mind throughout the year, and from one year to another, and it is no use denying that there is a great deal in this. It works so well with another valuable saying, that is well to recall at least once in a while, and that is the one,

"Early to bed and early to rise,
Makes men healthy, wealthy and wise."

Of late, this has been changed somewhat, and I have this one in its new form tacked up in my office near my desk. It reads like this:

"Early to bed and early to rise,
May once have made people rich, healthy
and wise,
But at the present, the man who would fain
make his mark,
Has to keep hustling till long after dark."

There are many bee-keepers who at the present time prefer to sit at the corner grocery store or at the post-office, whittling a stick and telling yarns, but it is one habit that the writer has never been guilty of. There are always so many better things to do about the place and in the house that there is no time for such idleness as this. The result is, that there are many things in our home, and about the place, not generally found at most places, and the pleasures derived from these things are just that much more enjoyment to us, and something that we are thankful for if our crops, etc., are below our expectations.

Instead of wasting time, which, with me, is the most valuable item in our progressive life, I devote it to other things than bee-keeping when I can do this. There are times when the bees do not need my attention so closely, and to fill up these gaps I spend the time profitably on something else. Besides this it has become well known that a busy business man should have some hobby or side-issue on which to waste his spare moments, so as to get his mind off his regular business. Of course, this does not concern the average small bee-keeper, but after the extensive point is reached at which I am following bee-keeping, it becomes more like a real business venture than the bee-keeping that most of us have been accustomed to. Thus it is that the writer needs an occasional change from the business cares, and this he finds in looking after his flowers and his chickens, as well as some other things that are of very much interest to him.

The thoroughbred poultry business is a profitable one if followed rightly, and it is one line that fits in well with bee-keeping, as a side-line. Attending to them early in the morning before the bee-keeping work needs attention has become a pleasure to me, and to have several lots of fine thoroughbred fowls in their different yards and on separate ranges, all looking as pretty as a picture, makes a person feel very enthusiastic about the "hobby" that he is riding when not attending to the strictly business part of his avocation. It takes his mind off the latter, and when he returns to it the work may be taken up again with renewed energy and vigor. The results of his work can not but be more favorable. It is the same with flowers. Although they do not need attention as regularly as the poultry, my visits to these and the attentions are frequent. Our flowers receive visits more at such times during the day when I begin to feel tired from the work I may be doing, and it becomes necessary to leave the desk where I may be writing, or whatever it may be. Upon returning to work, refreshed from the short rest that I have taken, and the pleasures I have enjoyed for a few minutes, I am better prepared to do more and better work.

The old saying, "All work and no play, etc.," is partly responsible for the methods that I have adopted.

Another practise that I have followed for many years, is to take my "good better half" with me whenever this was practical, when visiting some of the apiaries or other places. If, for instance, a trip for a day is taken, it is a picnic for us. Lunch is taken along, and a nice green spot is made the noon halting-place. There are so many things to see and to talk about on such a trip that the work is the least part of the busy life that we may be following. And so there are many things that we can mix with our daily bee-keeping to make it more easy and enjoyable, although our profits at the end of the year may not be as great as expected. We then have at least something to be thankful for. And thus we are planning for the new year already to do more of these things than we have heretofore. We have told our story so that others may at least be encouraged to some extent, although our ways may not be followed.

Early Preparedness in Bee-Keeping

There is much in early preparedness, especially in bee-keeping. We have seen the bee-keeper who is never prepared, mainly because he wants to see if first whether he will have a honey-flow at all or not. This kind of bee-keeper will never make a success unless he changes his ways. By waiting until so late in the game, as it were, it is nearly always impossible to get ready for the honey harvest, and the result is that the honey crop that he has been so anxiously waiting for, to see if it would come so he could get ready for it, is gone, and lost forever, and failure is the result of that kind of a bee-keeper's bee-keeping.

On the other hand, the man who begins months before to prepare his hives and other necessaries will reap the harvest year after year, and finally reach the goal of the really successful bee-keeper. In this day when the inducements for buying our supplies early are so great, there is no excuse whatever to wait until late in the season, and then get caught without the necessary supplies to catch the honey-flows. Why, it would pay to borrow money at a higher rate of interest in the fall of the year, when the supply-dealers are offering to furnish you the necessary goods at a reduction of 7 percent from the regular price, that the man who waits has to pay only several months later when the rush may be so great that he can not even get what he wants at the highest price.

Then there are the long winter months in which to prepare, at a very much smaller cost of time and labor than when other things need our attention later. Our time and labor at this time is very much more valuable than we may suppose. Some may not have much to do at this time even after being idle during the entire winter, and argue that the work might just as well be done now. But there must be something wrong with the man who finds something more to do than he now has later on when he could profitably attend to something else worth more than putting up supplies, etc. This time should be given to the attention of more bees, or something else, and then there would be little idleness except such times when actual rest and recreation may be desired or are needed.

My plans have always begun in the fall of the previous year, so that I am already busy with what I shall do during the year 1912.

BEE-KEEPING IN DIXIE

Conducted by J. J. Wilder, Cordele, Ga.

In Memory of R. W. Herlong

R. W. Herlong, of Fort White, Fla., whose death was announced last month, was born in Saluda Co., S. C., near the city of Saluda, March 2, 1868. He grew up there to manhood, obtaining only a common school education, such as was prevalent in that day and time, and he was loved by all who knew him. As a boy he was looked upon by all as exceptional, on account of his great piety and fidelity, and the same good reputation followed him up to and through young manhood.

May 20, 1888, he married Miss Loula Minich, who had lived only 3 miles from him. They had known each other from childhood, and attended the same school. Soon after their marriage they moved to Columbia Co., Fla., and bought a piece of land and engaged in farming, which he followed up to about 12 years ago, when he became greatly interested in bee-culture, and rapidly drifted into it as a sole business. He started with only 3 colonies in box-hives, which he transferred into modern hives, and they cast 6 swarms, and at the end of the first season he had 9 colonies of bees, which harvested several hundred pounds of honey.

The next season he made still greater progress in honey-production and bees, and so on until, the first thing we knew, Mr. Herlong was producing 30,000 and 40,000 pounds of comb honey in sections each season, and ere long his colonies numbered nearly 1000. His great progress startled me, and after buying nearly $3000 worth of honey from him in a season, I paid him a visit, and after I saw him and his extensive bee-business, and how he managed it, it was no puzzle to me, but a wonder.

He had 4 other hustling men just as deeply interested in bees as he was, working bees on shares for him, and he worked them thus up to his death.

Perhaps no one has ever stepped up into our ranks that made the record Mr. Herlong did. His faith in the bee-business never wavered, nor did his enthusiasm grow less. Truly, Mr. Herlong was our greatest model as a bee-keeper, and his place in our ranks will perhaps be vacant for many long years before another can fill it. We can scarcely cease mourning our loss in his death.

While Mr. Herlong never wrote on bee-culture for our bee-papers, he was well known througout all beedom in the United States, and not only a great number of Southern bee-keepers have visited him, but even many from the North have done so, and all will be grieved to learn of his death. During his bee-keeping career, he greatly improved his farm and built a beautiful country home. Later he bought a nice home at Fort White, and moved his family there, where his children could obtain better school advantages, and where he lived until his death, which occurred the night of Oct. 11, 1911. He was taken with a congestive chill, and lived only 5 days, and was dying before his family and friends knew he was dangerously ill. He leaves a wife and 6 children—5 girls and 1 boy—and a great host of friends to mourn his departure. And I am sure the bee-keepers deeply sympathize with the family in their great bereavement.

He joined the Methodist church in his youth, and was a consistent and active member up to his death.

Chunk Honey More Satisfactory

> Mr. Wilder:—I wish I had you bee-keepers in a cave somewhere where I could lecture you on chunk-honey production, and modern ways of handling and packing it, to my satisfaction. We can not work up a great trade for extracted honey, and comb honey in sections breaks up too easily, and it ferments and begins weeping, and the surface of the comb is soon soiled, and a lot of dissatisfaction arises from producer to consumer. G. E. Leavitt.
>
> Tennessee.

The above comes from one of our largest honey-dealers, and, no doubt, if he had a lot of us bee-keepers in a cave he would convert more of us to the production of chunk honey and better ways of preparing it for market.

As I have often stated, chunk honey takes the place of comb and extracted honey wherever honey is used. When a jar or can of chunk honey is emptied into a dish or vessel from which it is to be served, there is comb honey for those who prefer it, as wholesome as it can be, and such is not the case with comb honey in sectfons, for insects begin preying on it from the time it leaves the hives until it is consumed, and more or less foreign matter has caught on the surface of the comb. Then there is extracted honey kept nice and fresh around the comb for those who prefer extracted honey. This combination is not only far better for the trade or consumer, but it is more advantageous for the producer than either of the other two ways of producing honey.

Then when we take the prices obtained under consideration, it seems enough to convince any bee-keeper that this is by far the best way to produce honey. But, of course, where apiaries are already otherwise equipped and no more bees desired, it would not be advisable to make the change unless it could be done at a small expense.

The above is given for the beginners mostly, or those who are contemplating adding "more bees."

Just Playing at Bee-Keeping

As I was passing through the park the other day, I saw a group of children, and they were very attentive and obedient to two of their number, one of which was a boy dressed in gentlemen's clothes, and the other a girl dressed in old ladies' clothes. The boy had an old gentleman's hat, and the girl an old lady's bonnet, and the children were calling them grandmama and grandpapa. After I passed on I said to myself that the two children did indeed resemble grandparents very closely in appearance, but they were only "playing at it." Then I said, so much like the majority of us bee-keepers. We are only playing at bee-keeping. When it comes to reality these two children represent the larger class of Dixie bee-keepers.

Off to the "Land of Flowers"

At this date (Nov. 15) wife and I are leaving for Bradentown, Fla., where we have bought a small corner of an orange-grove on which we expect to erect a winter home at once, and spend the winters there, where the climate is so near ideal, and other things so favorable.

We expect to have some additional room for the bee-keepers who may desire to come down and stay awhile with us during the winter, and would not desire to pay hotel bills, etc. No rents will be required except leaving whatever the room furnishing may be in our possession until they return, and should they not return, the furnishing would be ours for other bee-keepers or visitors to use. We will furnish only the bare rooms, and expect the visitors to purchase the furnishings, etc. I don't do this because I am so generous, for I have room here dedicated to the same purpose, and a great number of bee-keepers have visited us from time to time, and we are no worse off in dimes and dollars.

Bradentown is on the south side of the inlet of Tampa Bay and the Manatee River and the great Gulf of Mexico. It is one of the most beautiful towns in Florida, and noted for its tropical fruits and vegetables.

My step-brother, who was afflicted with an incurable disease, lived near this town for a number of years, and his life was prolonged many years. So far as climatic conditions are concerned, the surrounding country must be healthful. There is always plenty of public work going on there, and wages are good and living expenses most reasonable. I mention this because some would come if they could make expenses at public work. This they can do, and more besides, and pass the winter in an ideal climate and be greatly recuperated. Now, don't any prospecting bee-keepers go into that immediate section, for territory for bee-keeping is well taken up, or prospectively so, there.

There are already a number of bee-keepers there, or near there, and A. I. Root, who is so well known and loved by all bee-keepers, spends the winters there recuperating. Now, wouldn't it be fine if a large number of us bee-keepers would "winter" there? We could almost have a protracted bee-keepers' convention during the winters. A lot of Dixie bee-keepers would visit us and obtain their share of instruction along all lines of our industry, and from time to time greatly swell our ranks.

[We don't know about your getting A. I. R. into that kind of a "protracted meeting." He very likely would be out with the chickens and garden-truck, or may be flying around a mile or so high in a Wright biplaine. He's a pretty lively "boy," and doesn't like to be penned up very long at a time.

But your general invitation, Mr. Wilder, may result in your being over-run with Northern bee-keepers, who would like to escape the rigors of their "home-grown" winters, and spend a few months among the oranges, pineapples, etc., of Florida.

Should you have any of those "protracted conventions" of bee-keepers, you must be sure to "extract" the best of the proceedings for the department of "Bee-Keeping in Dixie."—Editor.]

FAR WESTERN BEE-KEEPING

Conducted by Wesley Foster, Boulder, Colo.

Sugar and Honey in Colorado

Sugar sells at 8 cents, and honey of the best quality may be bought in Colorado for 6 to 7 cts. Amber "strained" honey of good quality brings 5 cents. This condition need not be, for I know bee-keepers who are getting 8⅓ cents just as easily as their neighbors get 6 to 7 cents.

Bee-Articles and Advertising

We write on bees and prepare illustrated articles, the most of which is probably rehash. The value of two-thirds appearing in the journals is very problematic; but just turn to the advertising section—especially the want advertisements—and you can get concrete, boiled-down information, full of value to many of us. So we read the journals for social purposes and the advertising for facts of the honey market, supply situation, bees for sale, etc.

This statement is exaggerated somewhat, but it gives a hint as to the facts in the matter.

Automobiles in Colorado

The bee-keepers are finding that automobiles pay in the handling of out-apiaries. About 20 "autos" are in use by bee-keepers in the State. Some of them were purchased more for the fad than for real economy, but the majority are utility cars. Motor-cycles are also in favor with some, though when a runabout "auto" can be bought for the same money as a motor-cycle, the runabout will generally get the preference.

Within the next two years I expect to see the number of "autos" in use by bee-keepers doubled in Colorado Where out-apiaries are run, nearly twice as many colonies can be handled. It is so comfortable to ride home 7 or 8 miles in 30 minutes, and have an easy seat, and no horses to care for when you are at home. I have not bought my "auto," but the bee-keepers who have them have told me of their value.

Bee-Keeping in Montrose Co., Colo.

Ten thousand colonies would be a large enough estimate for Montrose county, on the western slope of the Rocky Mountains in Colorado. This county is interesting from the fact that the Gunnison Tunnel Irrigation Project is located here. The tunnel cuts right through mountain granite for a matter of 6 miles. When fully developed, about 40,000 acres of land will be watered, which will make more bee-territory.

Montrose county is disappointing to look at—there is so much waste land that the good pieces of orchard and farm land are eclipsed. The mountains rise on the east in a series of dry, bare adobe mesas, or flat-topped tablelands, and the Uncompahgre Valley (named for the river which flows through it) is made up of bottom-land and mesa land.

The mesas are located from 100 to 200 feet above the valley. These mesas have the orchards, as the cold freezes are less frequent—the air draining off into the valleys.

Alfalfa and sweet clover furnish the honey for the bees. Sweet clover grows in the gulches which abound on the sides of the mesas, and the river bottoms and roadsides are well seeded to this prince of honey-plants. The bee-keepers are sowing the seed, too, in the gulches, as the irrigated mesas furnish seep-water which flows down all these gulches.

When the irrigation district under the Gunnison Tunnel is fully developed, probably twice as many bees will be kept in Montrose county as are there now.

The bee-keepers, too, are an interested lot. They have their local association—the Montrose County Bee-Keepers' Association—the objects being to combat foul brood, and aid bee-interests generally. Each member in signing the Constitution agrees to give the secretary the number of colonies of bees he or she owns, and also to report all the bees in his or her neighborhood to the county bee-inspector.

To show the interest of the bee-men, this association decided to assess their own bees 5, 10 or 15 cents per colony, to pay the inspector, when the county commissoners refused to pay for the inspection of bees. This, as yet, has not been necessary, as the association sent a committee to meet with the commissioners, the result being that the work will be supported the rest of this year, at least. There will probably be some more work to be done with the commissioners the coming year, but the bee-men know how to go about it.

The membership now numbers 25 paid up, and represents an ownership of over 4000 colonies. Four of the members own automobiles, and find them very satisfactory for out-apiary work.

The foul brood situation in the county is improving, as Montrose county has had efficient inspectors who enforced the law as well as their time and the funds available would permit. J. R. Miller did excellent work, and Robert E. Foster, who is now inspector, is careful and thorough in his work.

J. J. Corbut, of Montrose, is president of the county association; J. C. Matthews is secretary, and Dr. S. H. Bell, treasurer. Mr. Corbut has between 200 and 300 colonies. Mr. Matthews owns and operates over a thousand colonies, and is the most extensive bee-keeper in the county.

The largest and most enthusiastic meeting of bee-keepers on Dr. Phillips' Colorado tour, was held in Montrose. Over 40 were present, including a half-dozen or more ladies. Dr. Phillips was fired with questions for an hour or more, and the meeting was greatly appreciated by all.

"A Year's Work in an Out-Apiary" is the name of a booklet by G. M. Doolittle, the well-known honey-producer of New York State. He tells how he secured an average of 114½ pounds of honey per colony in a poor season. It is fully illustrated, and tells in detail just how Mr. Doolittle has won his great success as a honey-producer. The price of the booklet is 50 cents, postpaid, but we club it with the American Bee Journal for a year—both for $1.30. Every bee-keeper should have a copy of this booklet, and study it thoroughly. Address all orders to the American Bee Journal, 117 North Jefferson St., Chicago, Ill.

CONTRIBUTED ARTICLES~

Marketing Honey—Good Advice

BY ARTHUR C. MILLER.

The rules for marketing honey are much like the old darkey's rule for rabbit pie: First catch your rabbit. What have you to sell? What did it cost you? Those two things must be known or else you can not form an intelligent idea of the marketing.

What is your honey? Is it light or dark, mild or strong, thick or thin? According as to what it is, you must be guided as to where to market it. If you do not know the markets you will do much better to turn it over to the man who does know, and give him a good commission for selling it, than to try to market yourself.

For many years white honeys have been looked upon as the best, ambers as next, and darks as last. For several years past, however, white honeys have been steadily declining in popularity in some markets, and amber, or golden honey, has come into popular favor. Just what the reason is it may be hard to determine, but I believe that one very potent cause has been the advent of alfalfa honey. It lacks character; it is insipid, and consumers are quick to drop it. A common remark is that "it is sugar-fed honey," and I have heard that from many a person who has never seen a bee-magazine or text-book. At any rate, the honey is not what they want. The amber honeys have been found on trial to have a "real honey-taste;" the golden color looks attractive on the plate, and it is becoming popular.

Persons familiar with honeys have their preferences for that from one flower or another. and so doubtless we will always have a market for particular flavors in both the strong or dark honeys, and in the mild and light, and where that trade exists it must be supplied. But how about the great mass of consumers who only know honey as honey? What are we to do with the assortment of kinds which many of us get? If you have a keen sense of taste assort them by mild, medium, strong as well as by light and dark. If your taste is not keen, employ the assistance of some one who can do the work. The very strong must go by itself. If it is light in color it may perhaps be advantageously mixed with a dark that is milder, and so make both marketable at an advanced figure.

The milds and mediums must be blended so as to give a sprightly flavor and a bright golden color. If you have too much of any one kind, buy enough of some other grade to mix with it so that you may have all your table honey of one uniform flavor, color and body. Or if you can not buy, then sell the straight kind to some other producer and let him blend.

Many of the big handlers of honey today carefully sample every lot of honey received, and then skillfully blend it. When bottled and in the hands of the retailer it is uniform in all bottles, each lot is the same, and the consumer finds the flavor always to be depended upon.

Where the honeys are not blended the flavors and colors vary, the display is not good, and the consumer never knows what is coming. It is much like eating assorted chocolates—the first piece is delicately flavored, and the next is filled with rank peppermint which you may detest. But with the candy you have but one piece, while with the honey you may have a pound or more which none of the family will eat. So I say, blend your extracted honey.

Comb honey must receive exactly the opposite treatment. Each kind must be kept carefully by itself, and two kinds never put in the same case, or sent to the same market if it can be voided. Fortunately most of the comb honey is produced on the yield of one kind of flower, and this ensures fair uniformity in the crop, but where conditions are otherwise, keep the kinds apart.

As to colors: The golden honey is coming to the front in this as well as with extracted.

On packages for market I can not say much to you that you do not already know.

For extracted honey in bulk I would urge you to use only new cans well washed out before using. See to it that the cans are put into strong cases. There is much complaint among purchasers that the cans are poor, weak, etc., and the boxes are so weak that cans are often badly damaged. How far you can afford to go in buying better cans it is hard to say, but I feel that you will gain rather than lose by buying better cans and cases even at a considerable increase in price.

In retailing bottled honey, it makes little difference what sort of bottles you use so long as they are uniform. But for your own sake, and for the sake of the whole fraternity, see to it that every one is sealed tight, and that there is not a particle of stickiness on the outside. Then when transporting the bottled goods pack them so breakage is impossible. For a label get one of your own—one that is distinct from everybody else's, and stick to it.

For marketing comb honey there is as yet no satisfactory way. The retailer hates to handle it for it is always being cracked or broken, and getting everything near it sticky. Until some sticky-proof yet transparent and secure package is found, comb honey will not be popular with the retailer. When he can handle it as safely and easily as he does candy or bottled honey, then we may look for an increased demand and a better price. At present every clerk avoids pushing its sale because handling means sticky fingers and clothes, and general delay, and the employer looks for a higher percent of profit to compensate him for the annoyances and loss from breakages.

Until we can overcome these troubles comb honey will not compete on an equal footing with other sweets, and will not yield the profit it should.

Above all things, keep out of the market all rank honey, regardless of what it is. And one of the worst and most dangerous—because it is of a beautiful golden color and fine body—is honey from mustard. Bitterer than quinine, it ruins any honey it is mixed with.

Providence, R. I.

Feeding Small Colonies During Winter

BY G. M. DOOLITTLE.

Can you tell us something through the columns of the American Bee Journal about wintering bees where the colonies do not have their hives full of combs? I saved quite a lot of afterswarms and other swarms coming late in the season. These do not have their hives full of comb, and some of them do not have enough stores for wintering through till spring. I winter them in the cellar under my house.—CORRESPONDENT.

The cellar is a much better place for such colonies than trying to winter them outdoors, for bees can not well be fed during the winter in this climate when wintered outside, except by setting in frames filled with comb and honey.

As the correspondent does not tell us whether his bees are in frame or box hives, the only way to answer will be by way of supposing that he has a part in each. Where such colonies are in frame hives, and they so build their combs by starting the cluster at one end of the hive that half of the frames are filled with comb and honey while the other half is empty, or nearly so, then the proper course would be to take out the empty frames and insert a dummy close up to the frames left. If the bees are in box-hives, or where the comb is built in all the frames about half way down, the middle frames containing more and the outside less, then I think it better to leave them as they are, for they can not be helped much by any contraction of the hive which could be done. It would not be best to fill the space under the combs, even could we do so, for bees winter better with a vacant space under the combs in any event. Dr. Miller found this out years ago, and so set to work and gave the bee-keepers of the world a bottom-board which can have two or more inches under the combs during winter, and only bee-space, or little more, dur- the working season. However, I am not advising having combs only partly built down, for in such cases the bees are sure to fill out the remainder of the space below with drone-comb when the working season arrives the next year.

It is much better to allow weak colonies, or swarms light in bees, only what hive-space it is thought they can fill, which is easily done with frame-hives by using a dummy on one side of the cluster. Should the season prove better than we expect, and this space allowed become filled so they need more room, all we have to do is to slide this dummy along and insert more empty frames, one or two as needed, when, at the end of the season, we shall have all the frames the bees have occupied filled with comb.

As to box-hives, I really feel that the bee-keeping world has no further use for such. With frame-hives all sorts of contraction or expansion can be made, or any exchange of frames of brood, empty combs or frames of honey, so that the weak can be built up, the stronger be made to help those with a less vigorous queen, and those rich in honey-supply, those which are lacking. In fact, the frame-hive is the only one that should be tolerated in this 20th century.

If the bees of our correspondent are short of stores, I would say, in the first place, this matter should have been looked after last September or October, at the latest, for winter is a poor time to feed bees. It will pay any bee-keeper to have so much enthusiasm over the wants of his bees that he puts them first, and neglects something else rather than being "so busy" with other things that his bees are neglected. Here is a place where nine-tenths of our beginners fail. They seem to think that their old employments must be attended to in any event, so the bees are neglected very often to their becoming unprofitable, when bee-keeping as a business is condemned, and the finance put into the venture lost.

But if the stores part was not attended to when it ought to have been, the conditions must be met as we find them. Therefore, I would arrange these hives so I could inspect them every week without disturbing them after the arranging, except to lift the covering over them, which if the covering is of cloth, can be done so gently that the bees will hardly notice it. Two or three thicknesses of old carpet, an old blanket cut up, or something which will keep the animal heat from the bees and allow the moisture exhaled from them to pass through, will answer, and can be turned or rolled up so noiselessly and without any jarring of the hive, that the bees can be looked at whenever necessary without any bad effect.

To know about when feeding will be necessary, carefully roll or raise the covering, and as this is done look at the combs along the top-bars of the frames, and as long as any sealed stores are seen near the cluster of bees, no feeding is necessary, and the bees should not be further disturbed. Where no such honey is seen, then the bees must be fed. If plenty of sealed honey is seen at one side of the hive, while the cluster of bees is on the other, the combs should be changed so that this honey will come up to the bees, fixing something under the covering, over the tops of the frames, so that the bees can move over the tops of the frames. In this way they will "lead" along as long as this honey lasts, while, otherwise, after they had consumed the honey in that part of the hive where they were clustered, they are likely to starve by failure to cross over the empty combs between to the stores in the other end of the hive.

Where no honey is seen, one or two combs furthest from the bees should be removed, doing this so as to disturb them as little as possible. These combs are to be filled with syrup and given back to the bees, if you have no combs of sealed honey to set in their places. This syrup should be of about the consistency of honey, and about blood-warm, so as to get into the cells easily.

To get it into the cells, punch the bottom of an old tin dipper full of holes, punching from the inside out, so that the jutting metal surrounding these holes will make a lot of fine streams when the syrup passes through, having the holes about ⅜ inch apart each way. By holding the dipper of syrup up a foot or more from the comb, the falling syrup will force the air from the cells so they will be filled, otherwise the syrup will simply and mostly run off the comb as "water off a duck's back."

To prevent spattering and daubing things generally, lay the comb down flat in a wash tub or boiler, so the sides of this vessel will catch all that does not go into the cells as the combs are filled, and while the syrup is still warm, spread the frames of comb in the hive until you come to where there are a few bees at one side of the cluster, placing the combs of syrup in the empty space thus made, when all should be brought up to bee-space again, and the covering replaced. All that is needed until spring should be put in, if possible, as in this way better results are likely to be obtained.

Borodino, N. Y.

Improvement in Honey-Bees

BY DR. A. F. BONNEY.

Discussing with a prominent bee-man the possibility of improving the honey-bee, he said:

". . . . . We have had the bee but about 50 years." Meaning that it has been but about that time since the movable-frame hive made a business out of apiculture.

While this is true, there are other factors to be considered, and the first is, that in the time mentioned many things have been discovered about other animals than bees to enable us to judge what might be done with the bees were it not for some disturbing factors not fully understood, and I am inclined to think parthenogenesis is the principal one. Owing to that, we do not understand the heredity of the bee as we do some other creations. Mendelism has become known in the time of which I write, and while there be some who shy at it as they did and do at Darwinism, it is as demonstrable a truth as is chemistry, for it belongs to the domain of mathematics, and until we understand what relation parthenogenesis holds to this newly-discovered law—until we can put our finger down on a queen and say: "This queen mated with such and such a drone will give such and such results," we are groping.

It is not our inability to mate purely, for there are thousands of acres—yes, thousand of square miles in the confines of our own country where bees have never been seen; moreover, with half a dozen colonies in a yard devoted to rearing desirable drones results might be attained. Further, bee-keepers might do as chicken-raisers in some parts of the country—give to adjacent farmers and small bee-keepers desirable stock, even introduce queens, or go a step further and exchange colonies of Italians for their scrub bees. This, of course, might not be practical to men who need every pound of honey they can produce, but such men seldom try to do anything about breeding bees, depending upon queen-rearers for their improved stock; but there are some who might try it.

I am going to confess that I am one of a few who look with suspicion on some of the claims advanced by occasional writers. Men are apt to grow enthusiastic over the results of their own labors; too often effect is taken for cause; a season's work satisfies. I have in recent corresponding found several bee-keepers who, like myself, have secured wonderful crops of honey from a colony one season, to find it the poorest another season. This has happened so often with me that I am about ready to formulate a law which will read: "There is no telling from season to season what a colony of bees will do."

There is another thing to be remembered, namely: It is practically impossible to establish in a court of law the parentage of a certain bee, or several, from a given hive. From one mother we will get bees (neuters), any one of which might have come from a colony of Italians, or half-breeds, Banats or Caucasians. A 5-banded queen will yield bees of less than 5 bands; some will even revert to the original 3-banded Italian, all of which makes it difficult to judge of results; and when it comes to *disposition*, that is, temper, and the instinct to gather honey, the problem is rendered still more difficult. I will say nothing about non-swarming, for of late that is not being so much discussed, and if we can develop a breed of bees which will always give a surplus of 100 pounds to the colony, we do not care particularly whether they swarm or not.

Because I question present methods, beliefs and statements, I am accused of obstructing progress, of tearing down instead of building; but those who criticise are, I think, only impatient of criticism. It does no good to maintain an error, to persist in certain statements because they are pretty and smooth. If creative evolution be a fact, ridicule can only delay for a short time its universal acceptance. Once demonstrated that the world was round it never flattened again; parthenogenesis once made plain, it suddenly became generally believed, the world conceding that the Creator probably knew what He was doing when He established the law.

In a wild state—that is, free—bees stored barely enough to keep them over winter, and in getting a surplus we have not altered the animal one whit. It is the hive, the method, not the breeding. We feed early and late, thus saving thousands of colonies which would otherwise have perished; we produce a thousand queens where the bees might have reared one; we pack hives and put them into cellars, all of which increases the surplus, but it is not breeding. We clip the wings of the queens, we trap undesirable drones—and with them many that are desirable; we swap brood, we import queens, but that is not breeding; nor shall we get results until we know fully what relation, heredity, parthenogenesis, and, perhaps, other factors have to do with the problem.

Buck Grove, Iowa.

Wintering Bees Indoors

BY C. P. DADANT.

I have lately received two enquiries asking an opinion as to the wintering of bees in cold climates. One of my correspondents lives in the province of Alberta, at the foot of the Rockies, and with quite an expense obtained a colony of bees through me. He has this colony in good shape now, and wants to know what I would do if I were in his place, in a country where the winter lasts from the beginning of November until the end of April.

The other man is in Northern Iowa, and desires information as to the number of colonies that may be wintered in a cellar 12x14 feet in size. The first man, however, has nothing in the way of cellar but a hole in the ground which is hardly sufficient for his supply of vegetables. Those of my readers who have started as pioneers in a new country, and have fought their way step by step in changing the wilderness to civilization, and the sage-brush into apple-orchards, will appreciate the situation. Thinking that my reply to these men may prove of benefit to others, I will proceed to give the suggestions which an experience of 40 odd years indicates.

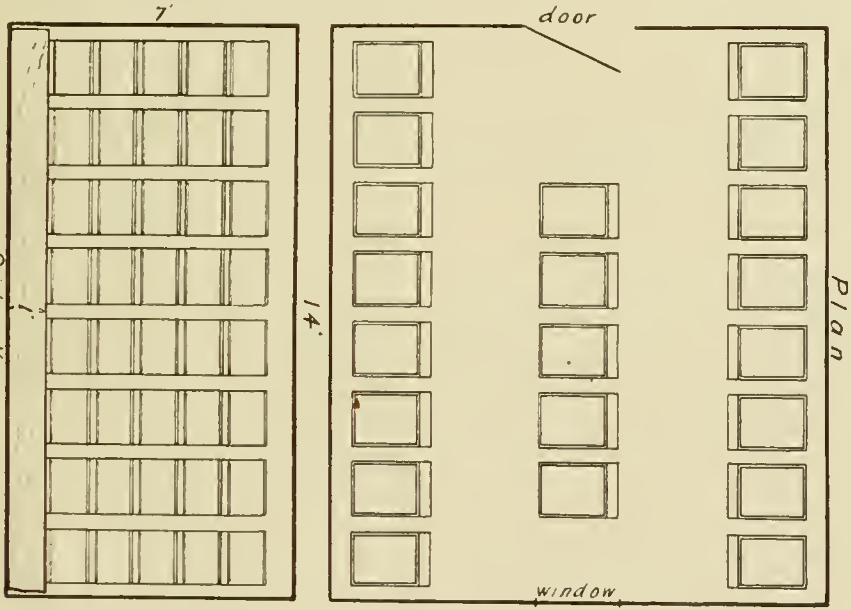

FIG. 2. PLAN FOR INDOOR WINTERING OF BEES. FIG. 1.

To begin with the last enquiry, I have requested my son, "H. C." to prepare a diagram of a cellar such as we used regularly at one time, exclusively for wintering bees, reducing the size to the measure indicated in the enquiry. The two cuts which follow are composed of a plan, Fig. 1, and a side-view, Fig. 2. The hives figured are of the regular 10-frame Langstroth pattern, without supers or caps. We always leave these on the summer stands, covered with a rough roof, such as we maintain over our hives in all seasons.

The reader will perceive that there are 8 tiers of hives on each side, 5 hives on each tier, making 80 hives piled against the walls. The center row, around which we can readily pass with room enough even to handle any tier without disturbing the others, contains 5 tiers, or 25 hives; total 105 in the cellar. If I had a less number, I would make as many tiers, but would put less on each tier.

At the bottom is figured a sill one foot high. This may be made of 2x6-inch scantling supported on blocks. The more air there is in circulation the better it is, so that we consider a narrow piece laid on blocks as best, provided it be only strong enough to carry the load. My reason for elevating the hives at least a foot from the floor is that the dampness is more likely to be near the floor, and when removing bees from the cellar, whenever I found any mold or mildewed combs it was always near the bottom of the pile. I also have found oftener dead colonies at the bottom of the piles than at other parts for the same reason, So if I have plenty of room I raise the hives on trestles rather than make the tiers shallower.

If I have weak colonies, I prefer to keep them at the top of the piles, for they need more warmth than the others and will secure it there. The strongest colonies are placed near the window, for there are found the greatest irregularities of temperature. The thermometer is placed by the door, so that I may be able to see it without carrying the light around in the cellar. At between 40 and 45 degrees the bees will be the quietest; this is, therefore, the best temperature.

With 100 hives in such a cellar, the difficulty has always been to keep the temperature down, for the natural warmth of the bees raises it considerably. A transom in the door helps ventilation, but is sometimes objectionable unless, as in my case, this door leads into another cellar, dark and cool also. The direct light of the window is easily kept off, at the same time keeping away a too-strong current of air by a system of blinds admitting air without light. My father had devised blinds which we used for years regularly, and which we use yet in seasons when we deem it advisable to winter our bees in the cellar. But at our latitude (the 40th) we find many winters mild enough for outside wintering, and we have diminished our cellar-wintering greatly. We practise it only when the colonies are comparatively weak and the stores scanty. It is not difficult for any one to make blinds that will answer the purpose of air, without light or a strong current of wind, but to such as would desire directions I will indicate pages 363 and 364 of the latest edition of the Langstroth-Dadant book.

The colonies that are nearest to the window sometimes get too much cold air, as compared with the others. To remedy this, we have used an old oilcloth table-cover, thrown over the few hives that are nearest the window. Old carpets would answer as well.

Length of cellar inside, 14 feet; width, 12 feet; distance of hives from walls, or from each other, about 4 inches; center tier from entrance, 4 feet; from the side tiers, 3 feet.

This is as compact a cellar as it is possible to build, and yet I know that bees will winter splendidly in such a place if we only keep the temperature right.

Enquiries to which I received response from many parts convince me that cellar-wintering is the safest method east of the Rocky Mountains and north of the 42d degree. Many report good success even south of the 40th. However, my own experience indicates that wherever an occasional flight can be secured during winter, it is best to winter bees out-of-doors.

Now as to the man who has no cellar, except a narrow and inadequate vegetable storing-room, and yet lives in a very cold country: To this man I say, build a silo. Silos were tried by us with success until we had so wet and mild a winter that the ground did not freeze to a depth of over 6 or 8 inches, and the soil was constantly soaked with moisture, our creeks running full even in January.

In a climate where the winter lasts 6 months, a silo dug into a hillside far enough to place the hives out of the reach of frost, with a good under-drainage and a thorough ventilation, with wooden tubes screened so as to admit air without permitting mice to enter, is as good a place for bees as we can desire. The hives should not be set on the ground direct, but on some sort of sill or stand 6 to 12 inches high. The ground selected for the silo should be well drained and dry, without seeps. The roof of earth should be supported at a sufficient distance above to free the hives of any contact. Rough beams, covered with boards, and straw or even dry weeds or rushes will give all the protection needed before piling on the earth.

I call to mind an old Belgian friend, living in Mille Lacs Co., Minn., who had a *permanent* silo large enough to contain 120 hives, with ante-chamber, all made of earth, logs, rough boards and straw, and asserted with pride that he had never lost a colony of bees in that silo. He had ideal conditions, however—a hillside of gravelly soil, exceedingly well drained, large hives, and an almost unfailing harvest of white clover honey every summer.

We can not count on uniform success. There are reverses to all lines of industry. But the man who takes cognizance of all the requirements, uses the experience of others, and to this adds his own careful, practical tests, is sure to make a success in the long run. The younger generation is bound to succeed better than its predecessors; but to do this it must learn and discuss the result of the experience already acquired by the latter. It is the added knowledge of the centuries which makes our sons more capable than their fathers, for experience is a dear school.

Hamilton, Ill.

Composition and Occurrence of Honey

BY WILLIAM C. POOLE.

Honey consists chiefly of invert sugar, water, and a trace of formic acid which the honey-bee uses as a preservative. When there are found large percentages of glucose in the honey it is due to the bees being fed with glucose, or obtained it from some fruit in the decaying stage, or possibly from some manufacturing concern which uses glucose in its manufacturing.

A sample of honey from my apiary which I analyzed, was found to contain an average of the ingredients which was found in the analysis of several samples of standard honey. The following is the analysis of my honey, and the analyses of honeys which were considered good, and also adulterated honey with cane-sugar and glucose, taken from "Leach on Food Inspection," which, I think, will be of interest to bee-keepers:

HONEY OF W. H. POOLE & SON.

Direct polarization	-0.1
Invert sugar	69.40 %
Water	18.00 %
Ash	.30 %

AVERAGE ANALYSIS OF SEVERAL SAMPLES OF GOOD HONEY.

Direct polarization	-2.4	to	-10.0
Invert sugar	60 37	"	78.8 %
Water	12 00	"	33.00 %
Ash	0.03	"	0.50 %

HONEY ADULTERATED WITH CANE-SUGAR.

Direct polarization	34.0	to	1.2
Invert sugar	42 48	"	67.2 %
Water	42.42	"	15.56 %
Ash		"	0.06 %

HONEY ADULTERATED WITH COMMERCIAL GLUCOSE

Direct polarization	147.0	to	101.5
Invert sugar	46.18	"	49.87 %
Water	15.19	"	23.70 %
Ash	0.03	"	—— %

Honey is a saccharine product deposited by the bee in the cells of honey-comb, which the insect forms out of wax secreted by its body. Honey has its source chiefly in the nectars of flowers, from which the bees abstract it. The juices of ripe fruits and the saps of trees furnish honey. During the secretion of the honey in the body of the bee the sucrose which forms the chief constituent of fruit-juice or nectar becomes, for the most part, inverted, forming in the honey dextrose and levulose.

The flavor of honey varies considerably according to its source. Besides water, the sugars and mineral matters, pollen is usually present, derived from the flowers; also, as a rule, a small quantity of wax, and nearly always appreciable amounts of various organic acids, such as formic.

In the above, of course, is not mentioned the coloring-matter in honey, which is due to the organic coloring-matter in the flowers from which the bee gathers the honey. Honey grades in color from a white produced from clover, to a black produced from buckwheat, with the wild flowers coming in between with an amber color.

44 Maple St., Yonkers, N. Y.

[Mr. Poole will analyze any sample of honey sent him by a subscriber of the American Bee Journal, if accompanied with 50 cents.—EDITOR.]

Foul Brood—Bacterial Action

BY A. W. SMYTH, M. D.

We speak of bacteria as causing diseases; then, again, as preventing diseases, and sometimes as curing diseases. These opposite and apparently irreconcilable properties in objects that can only be seen in a microscope, have caused the bacteria to be looked upon as mythical bodies by many intelligent persons who have not made them a special study. In explanation of the ways in which bacteria act, I propose adopting a method frequently used by lawyers in court, *i. e.*, of stating a case; and I present the case of a boy learning to smoke.

If a boy takes 5 or 6 whiffs of smoke from a tobacco-pipe, he will, in 3 or 4 minutes, turn pale and have to lie down. He will be a very sick boy for half-an-hour, when he will begin to recover, and in an hour he will be nearly well again. The nicotine poison acts quickly, and only for a short time. If the boy had taken one whiff the first day, 2 the second, and 3 the third, he could have gone on for a month, and without being sick, have made himself an educated smoker—likely enough proud of his accomplishment! Men and women have educated themselves to take with impunity a dose of opium or morphine sufficient to kill a dozen persons, and men have been known to take, without any immediate ill effects, a quantity of arsenic sufficient to kill a score of men. They commenced by taking small quantities.

We will now suppose that there are bacteria which secrete nicotine poison as their weapon in the battle of life. The poisons secreted by the bacteria are very similar to the poisons formed in the leaves and flowers of plants, and in the bark of trees, to protect them from their enemies, so that the nicotine bacteria are not impossible bacteria—they may exist. If the smoking boy and another boy not educated to smoke should happen to be infected with these bacteria at the same time, no effects would be noticeable for several days—the period of incubation, say 10 days, when the bacteria would begin producing nicotine. The smoking boy would not be affected by it, while the other boy would be killed very quickly—probably in an hour. Now, if we had taken this boy before he died, taken him on the day he was infected, or the day after, and had given him a whiff of tobacco-smoke, the next day two, and so on, until the bacteria commenced secreting nicotine, he might have been sick from the larger dose, but he would have recovered to find himself as accomplished a smoker as the other boy, the bacteria having completed his education.

We would have saved the boy precisely in the same way as a person bitten by a rabid dog is saved in the Pasteur Institution, and the smoking boy's protection from the nicotine bacteria shows how immunity from smallpox, by vaccination, may be produced at will. It should be observed that it makes no difference whether we use the poison of the bacteria or the bacteria themselves, weakened by growing in a cow, or by over-heating, or by merely drying—as Pasteur did the rabid dogs' virus to protect against the disease—the result is the same. It is the poisons of the bacteria that cause and protect against the disease.

Our control over diseases, however, is very much limited by the great, and, I might say, insurmountable difficulties that have to be overcome in isolating the bacteria, and cultivating them so as to obtain their poison. The poisons can, as we have seen, protect against the acute infectious diseases caused by the bacteria, but when the disease has set in, the poison can not be used as a remedial agent in the disease. Antitoxins are then used in a few diseases with some advantage.

Bacteria, although vegetable organisms, live like bees in colonies, and the individuals act in the interest of the colony. It is numbers that make them formidable. If a bee stings it dies, and if a bacterium secretes poison it dies in secreting it. Both lose their lives in defence of the colony. A bacterium can multiply, and as a bee sometimes tries to multiply, but fails. The bacteria grow and multiply for some time before they commence secreting poison, and this explains the nearly uniform periods of incubation connected with most infectious diseases. The incubation period of hydrophobia varies to a great extent.

The nicotine bacteria did not grow in the smoking boy. Bacteria will not grow unless the surrounding conditions are favorable. Parasitic fungi will not grow in strong and healthy plants, but will readily in weak plants, and the tubercle bacilli will not grow in strong animals, but will readily in the weak. When the bacteria are unable to poison and paralyze the anima cells (Metschnikoff's Phagocytes) eat them, and when the tissue cells become resistant to the bacteria poison they quickly dispose of the bacteria. We find, therefore, that the attendants on the sick in smallpox, consumption, and fever hospitals are more secure from the diseases than if less exposed to them. The exposure strengthens the resistance, and preserves the immunity to the disease.

The animal cells know on the first touch of the bacteria whether they are dangerous or not, as one bee knows on the first touch of another whether it is from a queenless colony or not. The dangerous bacteria are of small size, and may be known to some extent in that way. If we inoculate a person with smallpox virus, and at the same time vaccinate with vaccine virus, the vaccine virus will commence growing 4 or 5 days sooner than the smallpox virus, and will protect wholly or partially from the smallpox virus. This is the same kind of protection by which we proposed to save the boy, and the same that Pasteur used in hydrophobia. It is simply inducing a mild form of the disease during the incubation period to protect against the fatal form at the end of it. The animal cells offer less resistance to the growth of the bacteria producing the milder poison.

I have stated as briefly as possible the action of bacteria in causing and protecting against diseases, to show that we can not make use of the bacteria or their poison in curing or preventing foul brood. That all parasitic bacteria, however, are continually increasing the resistance of animals to bacterial diseases, is evident,—the acquired resistance is transmitted, and becomes hereditary. Also to show that germicide remedies in the treatment of foul brood can not be relied upon. There is no royal road to health. We must, therefore, in dealing with foul brood endeavor to make the surrounding conditions as unfavorable to the growth of bacteria as possible; and if this principle is kept in view the details in carrying it out will be easily understood as we proceed with the subject.

The conditions must be exceedingly favorable to the growth of bacteria to enable them to destroy a colony of bees. The bees can protect their colony against bacteria to a greater extent than is generally supposed. No one has found foul brood in bees located in chimneys or garrets, or, in fact, in any home not purposely made for them. If we continue to favor the growth of bacteria in the hive so as to give the bacteria an advantage over the bees in the "struggle of life," and persist in cultivating the bacteria, and not the bees, we will, most assuredly, never succeed with disinfectants and germicides in getting rid of the disease caused by the favored bacteria.—*Irish Bee Journal.*

Does Spraying Cotton Kill Bees?—Some anxiety having been felt about this, Gleanings in Bee Culture has obtained from Government officials the opinion that for more than one reason bee-keepers need have no fear of danger from that source.

DR. MILLER'S ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Sugar Candy for Winter Stores

The bees here did not store any honey last summer on account of dry weather. Could they be fed by putting loaf sugar over the frames? How much would it take to winter a colony? IOWA.

ANSWER.—Such sugar is too dry for the bees to consume. If you make it into candy it will do. A cake of candy may be laid on the top-bars, or the candy may be put into the brood-frames and hung in the hive. Give enough candy so that the honey already in the hive and the candy taken together will weigh about 30 pounds for each colony outdoors, and 20 to 25 each for the cellar colonies.

Difference in Italian Bees

1. I would be glad to know what the difference is between the 3-banded and the golden Italian bees, and how they are obtained.

2 Also, are the 3-banded bees longer tongued than the golden? I had goldens that worked on red clover, but I see they are always classed differently. MISSOURI.

ANSWERS.—1. The workers of bees imported from Italy have 3 yellow bands. Those that are called golden are obtained by breeding continuously from the yellow races, constantly selecting those showing most color. They are an American product.

2. There is probably no difference as to length of tongue between the two classes. When bees work on red clover it may be because of longer tongues, and it may be because of shorter corollas in the blossoms. I have seen black bees working on red clover.

Starting in the Bee-Business

1. Tell me how I can get 100 colonies of bees at a moderate figure. Could you supply them? Could I buy them here and there in Illinois?

2. Is honey of a good grade always sure to bring a good price in Chicago? What could I get for it?

3. What profit will each colony pay, suppose everything is favorable?

4. Please make sugestions as to saving in hives, etc. I shall have only a small sum of money to put into the business.

NEW JERSEY.

ANSWERS.—1. I don't at present know where you could do best at purchasing that number of colonies. It is possible that some one person may have them for sale, and it is possible that you would have to get them, as you say, here and there. But look out that you don't buy foul brood with your bees. I have no bees to sell. An advertisement in the American Bee Journal will cost very little, and will be the surest and qhickest way to get replies from those who have bees for sale.

2. No; honey of a good grade is not always sure to bring what bee-keepers consider a good price, either in Chicago or any other large market. At present there is probably less honey on the market in Chicago than at any time before in 25 years, consequently the price is unusually high, the top price for section honey being 18 cents, and for extracted 9. In abundant years it may be down to 13 or 14 for comb, and 6 or 7 for extracted. Out of these prices will be taken a commission of 10 percent. You would get what would be left after taking out commission, freight and cartage.

3. That's a very hard question to answer. An average yield of comb honey may be all the way from 0 to 150 pounds. I mean the average of all the colonies in the apiary. Taking one year with another, some estimate an average yield at 75 pounds per colony. Probably 40 pounds will come nearer the mark, and even that may be too high. Extracted honey will do about 50 percent better.

4. There is probably no way you can get hives and other supplies cheaper than to buy them ready to nail from manufacturers or bee-supply dealers. Very few bee-keepers nowadays think it economy to make their own hives. With special machinery the factories can do the work better and cheaper. In the bee-papers you will find the names of manufacturers and dealers, who will be glad to send catalogs on application.

Supersedure Cells—Only Clover for Bees—Lost Many Queens

1. Is there any way to tell a supersedure queen-cell from a swarming cell, during the swarming season?

2. Would it be a paying proposition to keep bees where there is nothing but white clover—nothing after the clover is through blooming?

3. This season I lost lots of queens. They would supersede the old queen, make cells, and hatch young queens. In from 3 to 7 and 10 days these young queens would disappear. According to the "A B C" book, I gave it a frame of eggs and brood. The bees would at once rear another queen, and she would disappear in the same way as the first one. I would continue. Some of my colonies reared as many as 4 queens before one was mated and laid.

I have seen no bee-martins as mentioned in Gleanings in Bee Culture and the American Bee Journal. I am still guessing.

4. Can you tell me if the State of Oregon has a bee-inspector? If so, can you tell me his name? My bees are all right so far as I know, but I am only a beginner, and I am not supposed to know very much.

OREGON.

ANSWERS.—1. There is no difference between a supersedure-cell and a swarming-cell, either in appearance or any other way. It may happen that the bees start to supersede a queen without swarming, and then conditions for swarming turn so favorable that they swarm. Again, bees may prepare to swarm, when conditions for swarming turn so unfavorable that they give up swarming. In that case they may simply destroy the cells and allow the old queen to continue, or they may supersede the old queen.

If, during swarming time, you find queen-cells, you may be almost sure it means swarming. If cells are found somewhat out of the time when most colonies are swarming, you can only make a guess in the case. If the number of cells is small—not more than 3 or 4—and especially if the queen is old, it is likely to mean superseding. For swarming, a larger number of cells will generally be found.

2. Yes, if the clover is sufficiently abundant. But it happens too often that clover blooms without yielding nectar.

3. Some years in some places the loss of virgins on their wedding-flight is very great, without its being clear just why. Even if you knew just why, it is not likely you could do anything to prevent it.

Bees Dying Off in November

I have just discovered what is to me a very strange thing, and what is worrying me not a little, for I do not understand what can be wrong.

One of my colonies of bees which I put away for winter about three weeks ago, seems to be dying off very fast, and in the last week there has been at least a pint of dead bees pushed out of the hive, which I can not account for, when this does not occur at any of the other hives, and which I can in no manner account for.

This colony is a young one, and was very strong all summer, or rather from the time I got it in June, when it was a 3-frame nucleus, but built up very fast; and when I took 4 frames for a nucleus out the 1st of August, it again built up and was a very heavy colony when I fixed it up for winter, having about 60 pounds of honey, with a good, laying queen, and a hive full of bees.

I left my bees on the summer stand, moving 5 hives together, leaving the comb super on, and made a cushion that would just fit the super, and filled it with planer shavings; then placed some short staves over the frames and placed the cushion on them, so as to leave a small bee-way between the cushion and tops of the frames; then I placed the metal cover on, and a heavy canvas over the 5 hives, leaving a part of the front open, which faces the east in my orchard. I will say, however, that we have had no cold weather yet, so they could not have been chilled. Idaho.

Answer.—It is hard to make even a guess at what the trouble may be. It does not seem like any kind of disease, unless it should be paralysis, and that would hardly make such active work at this time of year. There is a bare possibility that in some way the bees have gotten some poisonous sweets that no other colony has found. The entrance may in some way have been temporarily closed, and because the colony is so strong some of the bees may have smothered. But that is very improbable. A mouse might be making trouble, or some other animal. You can see what wild efforts I am making at guessing, and if I were right on the spot it is possible I could do no better. Neither can I suggest anything to help. My final guess is that by the time this reaches you the trouble will have disappeared of its own accord.

Foul Brood—Nailed or Loose Hive-Bottoms

I have "Forty Years Among the Bees," which is a master piece of bee-literature. It treats clearly and to the fullest extent, any phase of bee-culture save that of the disease called foul brood.

1. Explain the treatment of this disease by the late E. W. Alexander; he gave his manner of treating European foul brood.

2. If your colonies in early spring are strong and vigorous, but you find one or more cells of foul brood in them, how would you treat them?

3. How do you account for the fact that foul-broody honey requires boiling for more than one hour to destroy the spores of foul brood, while merely melting the combs of a foul-broody hive kills the germs?

4. I hived a prime swarm last season on old combs which had contained foul brood, but not one cell of the disease appeared. Does not this clearly show that honey is more dangerous to feed to bees than old combs are to give them?

5. If you owned a number of Langstroth hives would you remove their bottoms, so that you could set one on the other?
Kentucky.

Answers.—You find nothing about foul brood in "Forty Years Among the Bees," because at the time that book was written I had had no experience with that disease, and I wrote only of the things coming within my own experience. Later, however, I had experience galore with European foul brood—not American—and "Fifty Years Among the Bees" gives that experience.

1. In brief, this is the Alexander treatment for European foul brood: See that the colony is strong, or made strong (that is very important); destroy the queen; 20 days later give a ripe queen-cell or a virgin just hatched of best Italian stock.

2. If only a cell or two is present in a strong colony, I would keep close watch of it to see whether it should disappear or increase. If it should increase I would remove the queen and give the colony at the same time a ripe cell or a virgin of best stock. Of course American foul brood would have the McEvoy treatment.

3. In a mass of honey the center is not heated sufficiently unless kept going for a long time. Are you not mistaken in saying merely melting the combs kills the germs? Foundation-makers keep the wax hot a *long time*.

4. Not necessarily. To decide that question there should be several cases of both kinds, so as to compare.

5. I surely would want at least a part of them with loose bottoms.

Smoker-Fuel.—Take the stalks and leaves of sweet clover, moisten with a weak solution of saltpeter, then dry them, and you have an excellent fuel that will produce a mild, quieting smoke.—*Prak. Wegweiser.*

Reports And Experiences

Bees Still Working Oct. 15th

Last year (1910) I had a total failure in honey-production, and had to feed the bees during the whole season. Out of 85 colonies I had only 28 left last spring, and they were so weak that I had to sacrifice the whole sage bloom to build them up. So I secured very little honey from sage, but I had a fair crop from hollyberry.

Since Sept. 1st, the bees have done fairly well on buckwheat, and by Oct. 1st, they began to roll the honey in from "pipe-stem," and especially from another flower for which I have no name. All hives were crammed full of honey.

From one colony on Oct. 3d I extracted from the whole brood-chamber and super, and by Oct. 15th it was all full again. I am still extracting, with bees working hard on the second flower mentioned in the preceding paragraph. B. E. Schnuckel.

Lonoak, Calif., Nov. 3.

A California Report for 1911

From 70 colonies, spring count, I increased to 100 the past season. My crop amounted to 13,800 pounds of extracted honey, and 500 1-pound sections of comb honey. This has been the best honey-year for a long time for extracted honey, but not so good for comb honey.

Quite a number of my colonies went as high as 300 pounds each. The honey-flow was continuous from May 1 until October. During that time I extracted 10 times.

I received 7½ cents a pound for white sage honey, and 5½ cents for amber.

This is a fine country for bees in good years, but a man can figure on a crop only once in 3 years, as an average. I have seen as many as 5 consecutive failures, and some years they will not gather enough honey, and have to be fed or starve.

San Benito, Calif., Nov. 19. L. G. Smith.

Bees Lost from Starvation

We have had a poor season here this year. We had 167 days without rain—from Feb. 17 to Aug. 3. There were showers a few miles around us during the summer. We lost 40 percent of our bees during the summer from starvation. Thomas Pouppirt.

Basehor, Kan., Nov. 18.

Killing Yellow Jackets with Kerosene

A way to kill yellow jackets, which I find is very good as well as cheap, is by the use of kerosene. All that is necessary for each nest is a long-necked bottle with a pint or so of kerosene in it, depending upon the size of the nest, the direction it takes, and other peculiarities.

This applies especially to those in such places that the nest is downward, and for those in a bank or a similar place one might need to use some other method. Carbon disulphide might be satisfactory for such places, which could be used by saturating small ragballs with it and by filling the hole with soil after putting them in. They might need to have a diameter of about ¾ of an inch, and therefore one might need to use about 4 of them. Master Thomas Leach.

Sunol Glenn, Calif.

The Season of 1911

I began the season of 1911 with 20 colonies, increased to 30, and the average income of honey-money per colony was $5.00, for which I felt thankful, after reading of so many total failures. I use the 10-frame metal-spaced Langstroth hive-body with sealed covers, and winter-case deep enough to take in a bag of forest leaves. Within 30 feet of the hives is a large pomace pile from a cider-mill, and I never saw a bee working on it in the fall of the year, although they usually do a little before pollen comes in the spring.

During my 4 years' experience I have lost but one colony in wintering, and they were alive in the spring, but queenless. Although we have no bee-disease in our locality, I was feeling a desire for Farmers' Bulletin 442, when lo, it came without asking. I desire to thank both Dr. Phillips and our Government for their great effort to help bee-keepers.

After all I have read concerning ropy American and yellow European foul brood, it seems that one can never expect to be immune for a term of 5 years after it has a good foothold in his locality. If any one thinks my hair stands up too straight, please mention extensive territories where the disease has been exterminated.

Varysburg, N. Y., Oct. 28. W. A. Spink.

Severe Drouth—Still Hoping

The drouth was so severe in this section at the time the bees usually are working in the supers, that they stored only a very small amount of honey. I have 40 colonies, and do not think that they will average 5 pounds, taking the whole lot, as many did not store any surplus at all. I am hoping for a good season next year, but it is hard to say now whether it will be such or not.

I am always glad to get the American Bee Journal, for there are always so many good things in it, and it is such a help to one interested in bees. Charles H. Chandler.

Darien, Conn., Nov. 7.

Experience with Foul Brood

I have just read the article on pages 335 and 336, in which Mr. Gibson recommends the McEvoy treatment for foul brood. I wish to give my experience.

One year ago last spring I discovered American foul brood in my yard; as I had been equalizing stores and brood, I had it well distributed through this yard of 150 colonies. I tried the McEvoy treatment on some 18 or 20 colonies, but out of this number only 2 or 3 stayed in their hives. Although I had clipped the queens, they would swarm out and cluster, sometimes 3 or 4 of them together, in some high tree, remain an hour or so, and leave for parts unknown. I saw very plainly that if I continued this treatment I would have scarcely any bees left.

Then I tried the Baldridge treatment, which, if rightly used, is a perfect success. Now for results: I cured all but 10 colonies that season, and those I cured the past spring, and have not a cell of foul brood in the yard now.

One of my neighbors tried the McEvoy treatment on some of his colonies with exactly the same results.

I should like to know *why* I failed. I suppose my bees got the disease from a queen I purchased. I know of no other way.
A. A. E. Wilber.

Broderick, Calif., Nov. 23.

Bee-Keeping Some Years Ago

My mother was a subscriber for the American Bee Journal for many years, and I think wrote for it occasionally. She was Mrs. S. E. Sherman, and lived at Salado, Tex. We imported, I think, the first Italian queen that was brought to Texas. We had 60 colonies in the early '80's, from which we took over 10,000 pounds of extracted honey one year. We got 360 pounds from one colony, which, I think, was the record at that time. I took 85 pounds last year from my one colony. I was away in the spring, and lost a swarm. This has been a very dry and bad year. I got only 35 pounds of honey.

The American Bee Journal recalls many fond recollections of my youthful associations, and of my dear mother, whom I had the great misfortune to lose over 10 years ago. (Dr.) C. H. Sherman.

Dallas, Tex., Nov. 6.

[We remember very well meeting Dr. Sherman's mother many years ago at one of the conventions of the National Bee Keepers' Association. At that time she was perhaps the leading bee-keeping woman in all the South. Her contributions to the columns of the American Bee Journal always indicated a practical experience with bees and the sale of honey, as she was a success-

Apiary of a Slipshod California Bee-Keeper.

ful bee-keeper. We are indeed glad to hear from her son, and to know that he also is still interested in bees, even though in a limited way. We hope that he may get back into the business again stronger than ever, and that we shall hear frequently concerning his success, which we trust may surpass that of many years ago.—The Editor.]

A Contrast in Keeping Bees

I am sending you a picture of 11 colonies of bees in one of the Bay cities. The bee-keeper (?) was mortally afraid of the bees; his wife and children were more so, and the poor neighbors were up in arms during swarming-time. This man's father was a bee-keeper in Ohio. For a smoker he uses a shovel, and places burlap or old sacks on it, then lights the sacking, and blows on the flames—as "father used to do!" Up to July 1st of the past season all the honey he was able to get from his 11 colonies (?) was the enormous amount of 2 pounds, and should not have had that much if I had not taken it from a new swarm that does not appear in the picture—in the only up-to-date hive in his apiary (?).

To show how much of a contrast there is between this man and another bee-keeper—distant just 35 minutes' walk—I may say that he had 60 colonies and obtained 4000 pounds of honey up to June 1st.

Does it pay to have up-to-date methods? The second man will obtain more honey next season because I have informed him as to the proper smoker and management of his bees. John C. Frohliger.

Berkeley, Calif.

White Clover Cut Short by Drouth

The white clover flow was fine here, but it was cut short by hot, dry weather. I began last spring with 40 colonies of Italians, increased to 42, and produced 800 pounds of fine comb honey, which sold for 15 cents per pound. John Cline.

Darlington, Wis., Nov. 23.

National Election and Constitution.—Just before going to press with this edition of the American Bee Journal, we received the result of the recent National election and vote on the new Constitution, which is as follows:

For Officers—President, George W. York, 535; Vice-President, Morley Pettit, 402; Secretary, E. B. Tyrrell, 557; Treasurer, N. E. France, 585.

For Directors—E. D. Townsend, 461; J. E. Crane, 421; Wesley Foster, 394; F. Wilcox, 374; J. M. Buchanan, 364.

For new Constitution, 438; against, 107.

Doubtless in the January number of the American Bee Journal we will be able to give some information that will be of interest especially to the membership of the National, concerning future plans and procedure. Just now we are unable to give anything more than the foregoing, which shows that the new Constitution has been approved by a large majority of those voting, and that the way is open for future developments.

◆

To Illinois Bee-Keepers.—The Secretary of the Illinois State Bee-Keepers' Association was authorized, at the recent meeting, to say that the fee would still hold at $1.00 for membership in the State and National, and also a cloth-bound copy of the 11th annual report; and that he was ordered to announce that in case the National Association adopts the new Constitution to take effect Jan. 1, 1912, after that date the above-named fee would be $1.50.

Jas. A. Stone, *Sec.*

Springfield, Ill., Rt. 4.

The W. T. Falconer Mfg. Co., of Falconer, N. Y., are increasing their bee-supply business right along. During the past season they added 6 or 8 large foreign dealers. Recently they sent a big shipment of goods to their dealer in Turkey. They have regularly established dealers in Havana and Santiago, Cuba, a number in Jamaica, in South America, in Santo Domingo, Porto Rico, British Isles, Germany, Turkey, Asia, a number of points in Africa, in Australia, New Zealand, the Hawaiian Islands, Mexico, and, of course, a large number in the United States. The Falconer Company deserves the large success with which they are meeting in the sale of their goods throughout the world. Quality in bee-supplies, like everything else, is bound to cause the right kind of quantity-demand in time.

◆

"Bees and Honey"—the book by Thos. G. Newman—is almost out of print, but we have a few copies left (cloth bound) at 50 cents each. Do you want one? Address the office of the American Bee Journal.

SUPERIOR BEE-SUPPLIES
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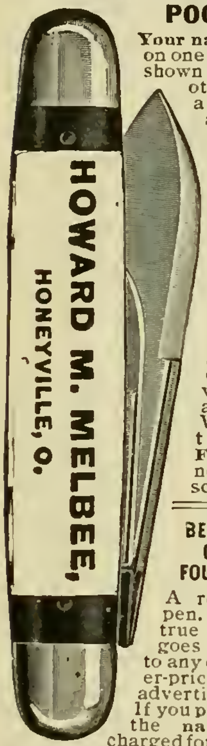

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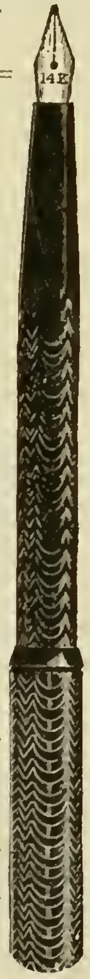

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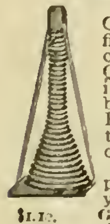

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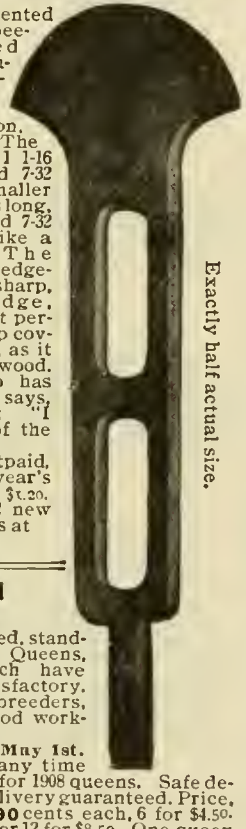

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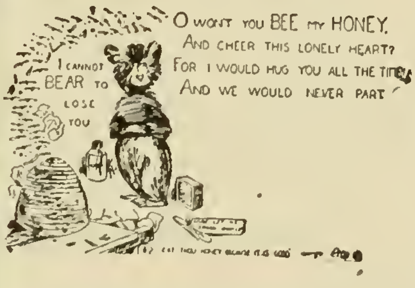
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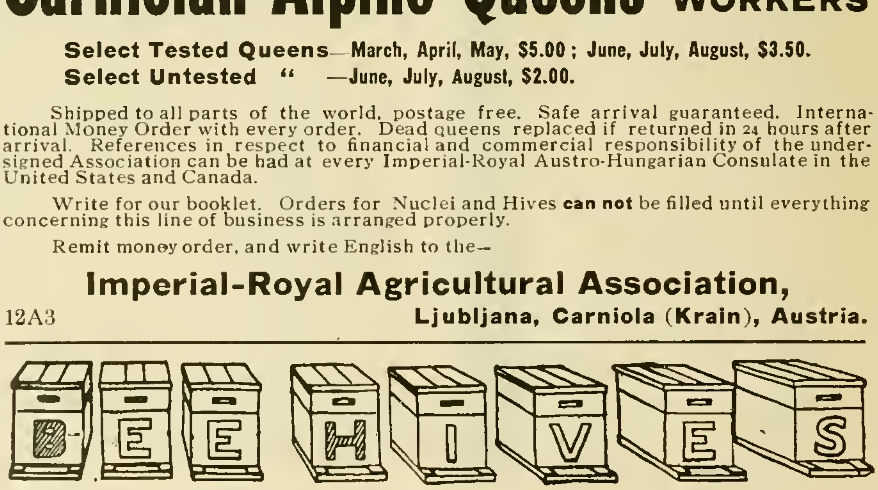

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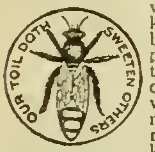
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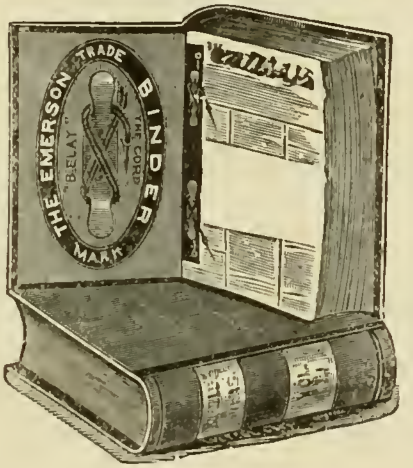
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The Emerson Binder is perhaps the best and most convenient of all Binders that are made for holding the copies of various publications as they come from week to week or month to month. Those we have for the American Bee Journal are stiff mottled pasteboard with cloth back. They are very strong and durable. One of these Binders will hold the American Bee Journal for 3 years, and the price is only 75 cents, postpaid; or we will send a Binder with a year's subscription to the American Bee Journal—both for $1.60.

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Prices, prepaid—Sample copy for a 2-cent stamp: 50 copies for 90 cents; 100 copies for $1.50; 250 copies for $3.00; 500 for $5.00; or 1000 for $9.00. Your business card printed free at the bottom of front page on all orders for 100 or more copies.

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The Superior WRENCH

A Necessity on Every Farm and in Every Household

The Superior Wrench will immediately grip and hold any nut, pipe or bolt, no matter what the shape, condition or size, up to its full opening capacity.

This wrench is always ready, and needs no adjustment for any size or shape whatever. You can readily understand its working principle from the illustration.

USE IT on badly disfigured nuts, corner all off, and where nothing but a cold-chisel and hammer have been effective heretofore; the Superior Wrench is the best, and will take off or tighten up any nut in such condition, and do it quickly.

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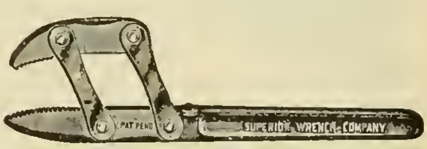

In operating this wrench it is not necessary to use both hands. If you do use both hands, place one on the heel of the loose jaw and not on the point. By simply setting the loose jaw up against the nut or pipe you wish to grip, drawing the handle to you, the wrench takes hold, and the harder you pull the tighter it grips.

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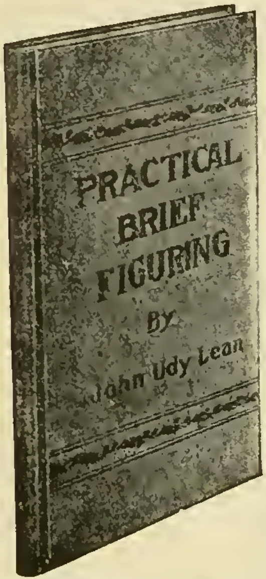

These Books would help you much

Practical Brief Figuring

Makes figuring easy and attractive. It contains "short cuts" for the merchant, manufacturer, mechanic and farmer, besides a treatise on the Civil Service Examination in arithmetic.

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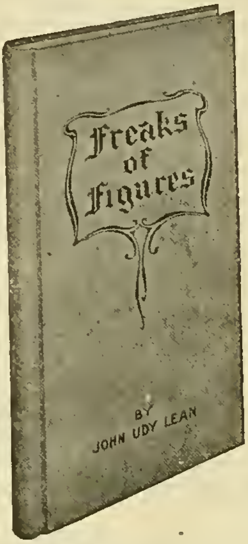
Is a collection of interesting and very amusing mental diversions for parlor entertainments and social gatherings for old and young. Both of these books are printed on an excellent quality of paper, and neatly bound.

We have completed arrangements with the author by which these books may be secured by all subscribers of the American Bee Journal at a nominal figure as follows:

We will send you the American Bee Journal for one year and a copy of either "Practical Brief Figuring" or "Freaks of Figures," prepaid, for $1.30.

We will send you the American Bee Journal for one year and a copy of both books, prepaid, on receipt of $1.70.

These offers are good for new subscriptions and renewals.



The postpaid price of "Practical Brief Figuring" is 60c; of "Freaks of Figures," 50c.

George W. York & Co., 117 N. Jefferson St., Chicago, Ill.

"First Lessons in Bee-Keeping" SEE PAGE 355

Poultry Profits Doubled
I bring 30¢ per lb.
Capon 8 lbs
I bring only 15¢
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CAPONS bring the largest profits — 100% more than other poultry. Caponizing is easy and soon learned. Capons sell for 30c. a pound, while ordinary poultry brings only 15c. a pound. Progressive poultrymen know these things and use

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We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for $1.10. Send all orders to the office of the American Bee Journal.

Each Regular Number of More than Usual Merit, and Six Special Issues of Particular Excellence.

This is the Program for GLEANINGS IN BEE CULTURE through the Coming Year.

It will be the purpose of these special numbers to cover thoroughly a few of the most popular and practical phases of the interesting work of keeping bees for pleasure and profit. The best contributions from writers well qualified to discuss the subjects at hand with authority, will be embodied in each of the issues named on the following program:

January 1st
Beginners' Number.

March 15th
Bee-Culture and Horticulture.

July 1st
Honey Harvesting and Marketing.

February 15th
The Bee-Keeper and Poultryman.

May 1st
Preparing Colonies for the Harvest

September 1st
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You will not want to miss a single number of GLEANINGS IN BEE CULTURE during 1912—and certainly not one of the Special Issues here announced. The only way to be sure, and on the safe side, is to **pay your subscription in advance.** We offer numerous inducements why you should do this.

Get our Catalog of Combination Offers—Gleanings in Bee Culture with Books and Magazines of Value to All.

December 4 percent Discount

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There's a worth while saving if you order your supplies for next season this month. Four percent off for cash—that means as much as you can get at your bank on money left for an entire year. Better take advantage of this. Get a ROOT catalog and figure up what you can save—now is the time to order, and we reward you for being forehanded.

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Is to have your Wax worked into Comb Foundation by the

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This is a saving over the old way of selling your Wax and then buying your Comb Foundation. Send us a postal asking for further information.

A very **Liberal Discount** is offered on **Early Orders for All Bee-Supplies.**

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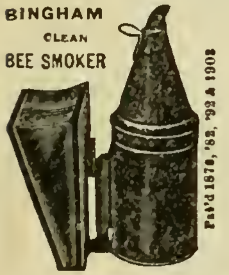

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made	$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
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Large—lasts longer than any other	.90—2½	"
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The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

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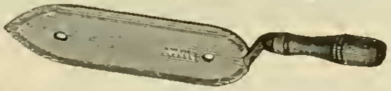

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BIG MONEY IN FURS

Over ten million dollars will be paid to trappers of fur bearing animals during the coming winter. Any man or boy living in the country can add a goodly sum to his earnings by trapping during spare moments. We furnish ABSOLUTELY FREE a complete Trapper's Guide which tells you the size of trap and kind of bait to use for the different animals, how to remove the skins and prepare them for market. We also furnish the best traps and baits at lowest prices. We receive more furs direct from trapping grounds than any other house in the world, therefore can pay the highest prices for them. Our price lists, shipping tags, etc., are also FREE for the asking. If you are a trapper or want to become one, write to us today. We will help you.

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CREATEST FUR HOUSE IN THE WORLD
30 Fur Exchange Building. St. Louis, Mo.

"Griggs Saves You Freight"

- TOLEDO -

Is the point to get Goods **Quick and at least cost.**

6 Per Cent Discount

This month. Send list of Goods needed and let us figure with you. Can take **Honey and Wax** in exchange for Supplies.

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Back Vols. American Bee Journal

BACK VOLUMES OF AM. BEE JOURNAL.—We have some on hand, and would be glad to correspond with any one who may desire to complete a full set. It may be we can help do it. Address, American Bee Journal,
117 N. Jefferson St., Chicago, Ill.

"First Lessons in Bee-Keeping" on another page.

The Campbell System

INSURES your crop against **DROUTH**
Our experience in 1910 and 1911 has proved that good crops can be grown with less than eighteen inches of rainfall. Those who followed the **Campbell System** in 1910 had a crop in 1911.

Don't Take Any Risks for 1912

Campbell's publications explain the system.

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When you write ask about the **Campbell Correspondence School.** 8Atf

TEXAS HEADQUARTERS

Root's Supplies for Bee-Keepers.

Makers of Weed New Process Comb Foundation.

Buy Honey and Beeswax.

Catalogs Free.

Toepperwein & Mayfield Co.
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Mexico as a Bee-Country

B. A. Hadsell, one of the most experienced and largest bee-keepers in the world—has made six trips to Mexico, investigating that place as a bee-country, and is so infatuated with it that he is closing out his bees in Arizona. He has been to great expense in getting up a finely illustrated 32-page booklet, describing the tropics of Mexico as a Bee-Man's Paradise, which is also superior as a farming, stock-raising and fruit country. Where mercury ranges between 55 and 98 Frost and sun-stroke is unknown. Also a great health resort. He will mail this book FREE by addressing, 7A12t

B. A. Hadsell, Lititz, Pa.

Please mention Am. Bee Journal when writing.

COST SALE

Of **BEE-KEEPERS' SUPPLIES for the next 4 months.** Too big Stock to carry over. Write your wants; I will make price to suit. Sept. 26, 1911.

W. D. Soper, 323 and 325 Park Ave. **Jackson, Mich.**

Closing Out Offer

We Have Some Copies Left of the Book

"Bees and Honey"

By Thomas G. Newman

bound in cloth, that we offer cheap to close out. It contains 160 pages, and is bound in cloth. It used to be a one-dollar book, but we will mail them, so long as they last, at 50 cents each; or with the American Bee Journal one year—**both for only $1.20.** Surely this is a bargain. The book is well illustrated, and has some good information in it, especially for beginners. Address all orders to

George W. York & Co.,
146 W. Superior St., Chicago, Ill.

The Fig — Its Cultivation and Commercial Value

By Col. E. S. WEEDEN

The fig is the most ancient and honorable of all fruits. When God set our first parents up in housekeeping, He did not place them in a city flat, but in a garden, and in that garden He planted figs.

The fig tree will yield the largest and surest returns for cash and labor invested of any fruit grown. It has a wonderful tenacity for life, and if well planted will sometimes "pull through" without help.

The illustration shown is taken from trees in an orchard planted by the writer about 15 years ago. It has never had any irrigation, cultivation or care whatever, yet the trees were this year loaded with fruit. Trees thus neglected make slow growth, while if planted "in the right place," and given proper care, they will give a showing of fruit the second year—a harvest worth saving the third year, and will return "large interest on a valuation of $1000 an acre" when 6 years old. Such an orchard would require but little care after the 4th year, and its harvests are sure, increasing in value for hundreds of years. Not only is the yield enormous, but no other fruit is so cheaply harvested. It is commonly spoken of as yielding three crops a year; perhaps it would be more accurate to say that it yields a continuous harvest from about the last of July to the last of September. When mature, it dries on the tree, then falls to the ground, and should be gathered twice a week—or, better still, every other day. It is "a boy's work," and there need be no such "nervous haste" to prevent loss as is common with other crops.

A Part of a Large Fig Orchard Near Oroville, Calif.

During the period it is maturing, there is never a drop of rain nor a bit of dew—only continuous California sunshine. Think of a man with 20 acres of figs, requiring his attention only about 3 months, with all the rest of the year to be utilized in other work. Think of the large and sure returns. *The fig never fails.*

Commercial figs can not be profitably grown in the United States outside of California and a small part of Arizona. The purple fig is common in Texas and the Southern States generally, but it is a small perishable fruit fit only for home and local consumption. The fig of commerce is an "arid fruit," and requires an arid climate. The unseasonable rains, common in a humid climate, would cause it to sour, or destroy it at harvest-time, while the occasional blizzards that kill orange trees and play such sad havoc with garden truck, would utterly exterminate the fig. Even where exposed to ocean winds and fogs, as in parts of Southern California, the fruit sours, and when its roots penetrate to water (and they often go down 20 to 30 feet), the fruit while large and showy is worthless, as it is sour.

While this fruit can be grown over a large part of California, yet to insure success, it is vitally important to use intelligent care in choosing a location. The red soil of the low foothills, and the warm, protected interior valleys, is where the fig loves to live, and where it makes a wonderful success. It is the worst of unwisdom to plant any fruit where it will not be "*at its best.*"

There are over 40 varieties of figs, yet of these only 3 are commonly planted, although a number of other varieties are known to be of large value. The Smyrna leads all in quality, and easily commands the larger price, but the tree is small and can yield only a small harvest, and it requires more care, so that notwithstanding its good qualities, other varieties are more generally planted.

The black fig is rich in food properties, grows to phenomenal size, yields an enormous harvest, and generally commands a better price than any other save the Smyrna. The White Adriatic is a close rival, if not the equal, of the black fig. In fact, the commercial value of these three are so nearly equal that the grower generally says, "Either one is good enough."

There are black fig trees in this State 60 or 70 years old. Some of them are 11 feet in circumference, over 60 feet high, with a spread of limbs of over 70 feet. These *never fail* in a uniform harvest of one to two tons each. Fig trees are commonly planted 40 to 50 on an acre.

Formerly the fruit brought about $40 per ton, but it has steadily grown in favor with the people, and increased in price, so this year's crop has sold for $90 a ton.

As a fruit to be consumed while fresh, the fig has few superiors. Figs and cream rank with peaches, strawberries or blackberries, while as a healthful, nutritious food it is vastly superior to any of them.

Overproduction is unthinkable. We are now importing millions of dollars worth every year. The consumption of this fruit is increasing far more rapidly than the production. This is partly because of the steady increase in population, but largely because our people are becoming acquainted with the great value of the fruit as food.

Besides this, figs make profitable feed for poultry, hogs, and other stock at $100 a ton. This is not a mere surmise, but, on the contrary, it has been thoroughly tested for years, and there are a good many orchards now devoted entirely to such purposes.

Oroville, Calif.

[Should any reader of the American Bee Journal desire to know more about the fig-growing business, Col. Weeden will be pleased to answer enquiries by mail. We have known the Colonel for over 25 years, and he is all right.—Editor.]

Wanted

WHITE HONEY

Both COMB and EXTRACTED

Write us before disposing of your Honey Crop.

Beeswax

—WANTED—

HILDRETH & SEGELKEN,

265-267 Greenwich St.,

NEW YORK, N. Y.

Beeswax Wanted.—We are paying 28 cents, cash, per pound for good, pure yellow beeswax delivered at our office. If you want the money promptly for your beeswax, ship it to us, either by express or freight. A strong bag is the best in which to ship beeswax. Quantity and distance from Chicago should decide as to freight or express. Perhaps under 25 pounds would better be sent by express, if distance is not too great. Address, George W. York & Co.,
117 N. Jefferson St., Chicago, Ill.

HONEY AND BEESWAX

CHICAGO, Dec. 1.—The demand for comb honey is quite limited at this time, and will likely be during the ensuing month. Prices for A No. 1 to fancy grades range from 17@18c, with the undergrades of white at from 1@3c per pound less. Amber grades are dull, and range at from 12@15c per pound, with a rather uncertain market. Extracted honey, white, 8@9c per lb.; ambers, 7@8c, according to kind and quality. Beeswax is in good demand at 32c per lb., for clean and of good color. R. A. BURNETT & CO.

CINCINNATI, Nov. 17.—The market on comb honey is firm, and is selling in jobbing lots according to quantity from $3.65@$3.75 per case. There is no demand for off-grades or amber comb honey. Extracted, fair demand, light amber, 8@8½c in 60-lb. cans. White extracted, 10@11c. Beeswax is in fair demand at $33 per 100 pounds.

The above are our selling prices, not what we are paying. C. H. W. WEBER & CO.

INDIANAPOLIS, Dec. 1.—Demand is good for best grades of honey, but prices are irregular. White comb sells for 18c in 10-case lots, finding ready sales. Amber grades in slow demand, and at much lower prices. Extracted seems to be plentiful, and is selling at 11@12c in 5 gallon cans. Beeswax is in good demand, and producers are being paid 30c per pound. WALTER S. POUDER.

CINCINNATI, Dec. 1.—Comb honey is becoming rather scarce. Strictly fancy we are selling to our trade at $3.75 per case, f. o. b. our store, and it finds ready sale. Extracted honey is still coming in quite lively; amber extracted honey is selling at 6@7½c, according to the quality and quantity purchased, while strictly fancy water-white table honey is selling at 9@10c. For choice, bright yellow beeswax absolutely free from dirt, we are paying from 28@30c per pound, delivered here. THE FRED W. MUTH CO.

SAN FRANCISCO, Nov. 28.—Extracted honey, water-white, 8¾@9c; 7¾@7 for light amber; 6@7½c for amber, and 5@5½c for dark. Comb honey, water-white sage, 15@16c; amber, 12@12½c. Beeswax, 26c for dark, and 30c for light.

Honey is being held for better prices. The demand at present is not very active, and some of the large producers are holding for an advance. J. C. FROHLIGER.

KANSAS CITY, Mo., Dec. 1.—The receipts of both comb and extracted honey are not large; demand only fair, but we look for a better demand from now on. We quote: No. 1 white comb, 24-sections, $3.25@$3.35; No. 2, $3.00; No. 1 amber, $3.25; No. 2, $2.75@3.00. Extracted, white, per pound, 8½@9c; amber, 7½@8c; dark, 6@7c. Beeswax, 25@30c.
C. C. CLEMONS PRODUCE CO.

BOSTON, Dec. 1.—Fancy white comb, 17@18c; light amber, 15c; amber, 14c. Fancy white extracted, 10@11c; light amber, 9@10c; amber, 9c. Beeswax, 30c. BLAKE.-LEE CO.

NEW YORK, Dec. 2.—Comb honey is in good demand for all grades. On account of the short crop, receipts are rather light and hardly sufficient to fill demands. No. 1 and fancy white find ready sale at from 15@17c, according to quality and style of package; No. 2 white, 14c; mixed and amber, 13c; buckwheat at from 10@12c, according to quality. Extracted is in fair demand. Early in the season reports from California and the Northwest indicated a short crop. These reports, however, have been misleading, as it is now generally conceded that the crop in California, as well as in the Far West, was much larger than the reports given out indicated, consequently prices show a downward tendency, and are likely to go still lower. On account of the high prices asked in the beginning of the season, some large concerns have cut honey out altogether, while others have been able to secure their supply in foreign honey, at considerably lower figures. Extracted, from the above-mentioned points, is now being offered freely, and it is evident that there are large quantities yet to be disposed of. We quote: California white sage, 9c@9½c; light amber at from 8c@8½c; amber at from 7@7½c; alfalfa at from 7½@8c; white clover and linden at from 9@9½c; buckwheat and dark at from 7@7½c—possibly 8c.
HILDRETH & SEGELKEN.

Engravings for Sale.

We are accumulating quite a large stock of bee-yard engravings and other pictures used from time to time in the American Bee Journal. No doubt many of them could be used by bee-keepers in their local newspapers, on their letterheads, on souvenir cards, or in other profitable or interesting ways. If we can sell them it will help us to pay for others that we are constantly having made and using in these columns.

We do not have a catalog or printed list of the engravings, but if you will let us know just which you want we will be pleased to quote you a very low price, postpaid. Just look through the copies of the Bee Journal and make your selection. Then write to us.

GEORGE W. YORK & CO.
CHICAGO, ILL.

Trade a Part of Your Honey Crop

For Supplies for Next Season

Send Your Order NOW, and Save 4 Percent

We are in the market for honey, both extracted and comb, in carload lots and less. We should like to have samples and lowest prices on your crop, and will advise you immediately what we can use, and treat you right.

May be you would like to send us a shipment of honey in payment of an early order for bee-supplies. No better time to do this than in November. Send sample of your honey and get our prices—tell us what supplies you will want, and we will try to accommodate you. Your supply order may be made up from our regular catalog, and you may deduct our special early-order discount of 5 percent for November.

Only a few articles listed in the big WEBER LINE of Bee-supplies are excepted from this discount. On paint, Porter bee-escapes, Bingham smokers, bees, queens, printed matter, cartons, honey-packages (tin and glass), bushel boxes, hotbed sash, honey-labels, seeds, and such seasonable goods, the discount is not allowed; but where a large general order includes some of the excepted articles, not exceeding ten to twenty percent of the whole order, the discount may be applied to the whole order.

If you have mislaid our catalog sent you at the beginning of the season, let us mail another. It's worth your while to make up your order now and send it to us with a cash remittance. You can buy your supplies for next season cheaper than at any other time during next year.

Save Freight by ordering from Cincinnati.
This is an item worth looking after.

C. H. W. Weber & Co., 2146 Central Ave., Cincinnati, Ohio.

Less 4 Percent Discount During DECEMBER

"Falcon"

The ⋈ Standard ⋈ Bee-Keepers' ⋈ Supplies

KANSAS CITY, MO.

The Freight Center of the Western States

A complete stock of "**Falcon**" hives, sections, foundation, smokers, shipping-cases, extractors, etc., is kept in stock at this centrally located house for prompt shipment at a great saving of freight. "**Falcon**" goods, hives and supplies made right, may be obtained from this point less the maximum early order discount. Write for Red Catalog and send list of 1912 requirements for quotation to C. C. Clemons Bee Supply Company, 130 Grand Avenue, Kansas City, Mo.

CHICAGO, ILL.

The Freight Center of the Middle States

Our branch, W. T. Falconer Mfg. Co., 117 North Jefferson St., Chicago, Ill., is **the only bee-supply house in the business section** of this metropolis of the States. Surrounded on every hand by freight and express depots we are pre-eminently fitted to take care of your wants, making shipment by the cheapest and most direct route to you........and there is never any charge for drayage to depot. Let us quote you less early order discount from this freight-saving center.

"**falcon**" dealers are in every State and encircle the Globe. Write for name of nearest one to you.

W. T. Falconer Mfg. Company,

" Where the Good Bee-Hives Come From "

Factory: Falconer, N. Y.

117 North Jefferson Street,
CHICAGO, ILL.

You Want a Home

WHERE pure water is plentiful, comes when you wish, and stays when you will;

WHERE cyclones are unknown, and blizzards impossible;

WHERE crops never fail from drouth, and the unhoused harvest is never damaged by storms;

WHERE your stock can feed and fatten on pastures that are always green; and you can work in your fields with profit and pleasure every day in the year—except Sunday;

WHERE you can grow to perfection all the pleasant fruits, and all else that can contribute to make your home a paradise;

WHERE you can raise two crops of some things (on the same ground the same season), and continuous crops of other things, giving you "a money harvest" to sell every week in the year;

WHERE "sunny days" cover two-thirds the time, and yet sunstroke or "death or damage from heat" are unknown;

WHERE bees banquet in fields of never-fading flowers, securing rich stores of honey—which they do not consume "in wintry hours;"

WHERE you can grow practically all the nuts and fruits of commerce to perfection and in enormous quantities. Remember that Apricots, Almonds, Raisins, Figs, Olives and **Washington Navel Oranges** can not be grown in commercial quantities anywhere in the United States outside of California. Hence, a good price is assured, and over-production impossible.

YOU WANT A FAIRY FARM

WHERE you can (with the help of your boys) take the best care of it—thus forever ending the torturing ghost of "hired help;"

WHERE "your boys" will get rich on berry-patches, and "the women-folks" with poultry—as a by-product;

WHERE you can get more net cash every year from ten acres than can be wrested from a quarter section of the best farm land in the Mississippi Valley, and all this while escaping the lonesome isolation and dreary drudgery inseparable from the larger farming.

You want to know all about this wonderful land. You can secure full and accurate information by writing to

Col. E. S. WEEDEN, OROVILLE, CALIF.

Stating you saw this advertisement in the American Bee Journal. Reference—Editor American Bee Journal.